Advisory Note.

Waikato District Council adopted the Ngaaruawaahia, Hopuhopu, & Taupiri Structure Plan / Ngaaruawaahia Town Centre Plan on the <u>21st of October 2024</u>. Information contained in this report from the "Ngaaruawaahia Structure Plan – <u>2017</u>" relating to **Ngaaruawaahia**, **Hopuhopu**, & **Taupiri** has been superseded by a more recent technical report.

You can find the updated report here.

If you are after information pertaining to **Glen Massey**, **Horotiu** or **Te Kowhai** this report still applies.



Ngaruawahia and Surrounds Structure Plan

Integrated Transportation Assessment



Ngaruawahia and Surrounds Structure Plan

Integrated Transportation Assessment

Client: Waikato District Council

Co No.: N/A

Prepared by

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15-Sep-2014

Job No.: 60316752

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Quality Information

Document Ngaruawahia and Surrounds Structure Plan

60316752

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structure plan.docx

Date 15-Sep-2014

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Revision History

Revision	Revision	Details	Autho	prised
TCVISION	Date	Betalls	Name/Position	Signature
	15/09/14	Review	Shaun Lion-Cachet Principal Engineer	Blilit
	04/12/14	Final	Shaun Lion-Cachet Principal Engineer	Blilit

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Executive Summary

Growth projections for Ngaruawahia and its environs are modest, apart from for industrial development at Horotiu for which the roading infrastructure has already been put in place. The advent of the Te Rapa Bypass and Ngaruawahia Bypass has removed much of the former state highway traffic from the historical routes of SH1 and SH39 through Ngaruawahia and parts of Taupiri and Te Kowhai. These changes and land use forecasts mean there is little in the way of structure planning required from a roading perspective.

Opportunities exist for some traffic management measures to improve circulation and complement potential environmental upgrading of Great South Road through the commercial part of Ngaruawahia. Residential subdivision in Ngaruawahia, Taupiri and Horotiu is of a scale such that it can be largely managed in roading terms through the normal Subdivision and Technical Specification compliance procedures in the District Plan.

The only exception that requires some protection through a Structure Plan is a proposal to construct a future upgraded intersection where Great South Road meets Saulbrey Road, and ensuring connectivity between Saulbrey Road and the existing urban development to the north. The Great South Road/Saulbrey Road intersection could be in the form of a signalised crossroads or a roundabout and would cater safely for increasing traffic from subdivision off Saulbrey Road, provide access to development between Great South Road and the Waikato River, and could provide a safer access to the Ngaruawahia Golf Club. It would provide a threshold to the lower speed environment in Ngaruawahia.

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1.0 Glossary of Terms

The following abbreviations and terms are used in this report

ADT	Average Daily Traffic
District Plan	The Operative Waikato District Plan
HCV	Heavy Commercial Vehicle
NIMTR	North Island Main Trunk Railway
NZTA	The NZ Transport Agency
SH	State Highway
vpd	Vehicles per day

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2.0 Introduction

Waikato District Council is preparing a Structure Plan for Ngaruawahia and the surrounding area. The Structure Plan is intended to be incorporated into the District Plan with the purpose of guiding development for the next 30 years or so, and will include land uses, infrastructure requirements, community facilities, environmental objectives and urban design.

This report examines the requirements, opportunities and options for all modes of transportation.

The study area is shown in Figure 1. It extends from Taupiri in the north to Te Kowhai in the south and out to Glen Massey to the west. The Waikato Expressway forms the western boundary of the study area.

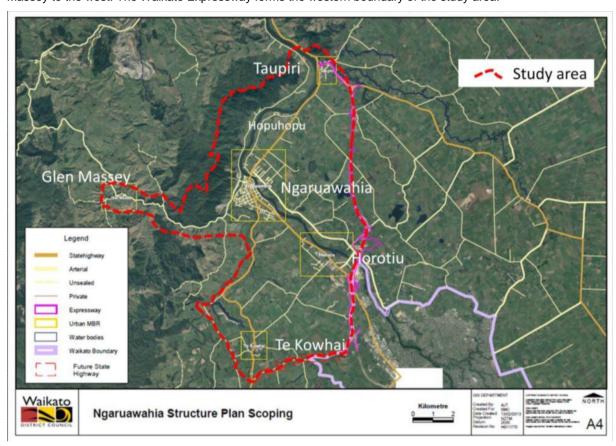


Figure 1 Ngaruawahia and Sourronds Study Area

3.0 Land Use Planning Context

Ngaruawahia has a population recorded at 5127 in the 2013 census. The Taupiri Community was recorded at 417, Te Kowhai 1509 and Horotiu 768. The census populations of Taupiri, Horotiu and Te Kowhai include rural residential areas around the actual townships. Glen Massey is not identified separately in the census but has a population of around 225.

The Future Proof strategy which is also embodied in the Waikato District Growth Strategy identifies the possibility of significant growth in all these areas, but notes that these are potentials in planning terms rather than being expectations.

Ngaruawahia provides the administrative centre, and some employment, in the form of the Waikato District Council head offices and works depot. It also provides other services and local retail opportunities and is a cultural centre by virtue of being home to the Turangawaewae Marae, seat of King Tuheitia. However, the major employment source for the town lies to the south with Horotiu, Te Rapa and Hamilton. There is also a strong retail draw to Hamilton, particularly with the advent of The Base. The construction of the Ngaruawahia Section of the Waikato Expressway has removed high volumes of through traffic from Great South Road, the main road through

the town. This may have resulted in the loss of some trade but has also much improved local accessibility for all forms of transport and offers opportunities for enhancement along the former state highway corridor.

Like Ngaruawahia, the population of Taupiri has varied very little since the 2001 census and no dramatic growth is expected. However, the environment of the town has been improved by removal of the state highway traffic from Great South Road, with state highway traffic now just cutting through the northern part of the township. When the Huntly section of the Waikato Expressway opens more state highway traffic will also bypass the town, but will be partly replaced in time by some growth in traffic from the Huntly area. The proximity of Taupiri to the Waikato Expressway offers quick routes to both Auckland and Hamilton which could potentially be attractive to some small businesses or residents.

Horotiu is home to a small community, historically built largely around the meat works (Affco) and with a primary school that serves the local district. Infrastructure is in place for the first stage of the Northgate industrial estate in Horotiu and the first businesses are now starting to populate the development. This will be an important employment zone for workers from Ngaruawahia, Hamilton and the surrounding areas, with easy access to the Waikato Expressway. Limited residential growth is seen as a possibility between the former state highway and the Waikato River.

Te Kowhai is a small rural township with a primary school and some local shops serving the town and surrounding rural and rural residential areas. In terms of employment, secondary education, retail, and other services it probably has more connection with Hamilton than Ngaruawahia. The ability to service the township with water and wastewater reticulation is likely to limit the residential growth of the town for the foreseeable future.

4.0 Existing Traffic Environment

4.1 Traffic Volumes

The road network in this Structure Plan area has historically been dominated by state highway traffic, associated with both SH1 and SH39. The advent of the Ngaruawahia Section of the Waikato Expressway has removed much through traffic from Taupiri and Ngaruawahia and also affected SH39 traffic, with SH39 traffic being re-directed to use the Waikato Expressway via Te Rapa rather than the former SH39 route between Te Kowhai and Ngaruawahia. The Huntly Section of the Waikato Expressway can be expected to add to the diversion of traffic away from the previous SH1 and SH39 routes.

Traffic patterns of local roads in the vicinity of the Waikato Expressway will also have changed. For structure planning purposes it is therefore more useful to look at predicted traffic volumes rather than considering historical traffic volumes.

The following traffic volumes are what the Waikato Regional Transportation Model (WRTM) is predicting for 2021¹ for a typical weekday. In recent years actual traffic growth has been trending slower than the WRTM predicts so the traffic volumes probably represent a year well beyond 2021.

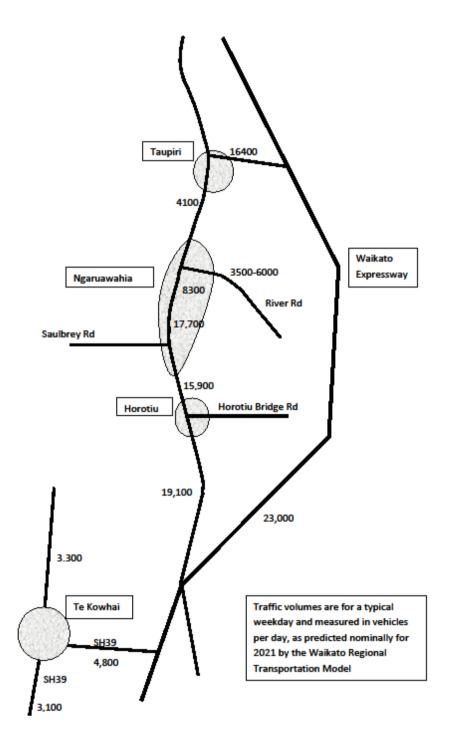
Points to note are that the traffic volume on the former SH1 through the town centre part of Ngaruawahia is forecast to be around 8,300 vpd which is still in the realms of an arterial road traffic volume, although probably less than half what it was prior to the Ngaruawahia Section of the Waikato Expressway opening. The traffic volume rises heading south through Ngaruawahia to be over 17,700 vpd by the Saulbrey Road intersection, with traffic volumes through Horotiu very similar to what they were prior to the opening of the Ngaruawahia Section of the Expressway. These traffic volumes assume substantial development of the Northgate Industrial Estate, generating 6,000 vpd.

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¹ Model Network WI21TRFALL20.NL

Figure 2 2021 predicted traffic volumes



4.2 **Travel modes**

The 2013 census recorded the travel modes shown in Table 1 for Ngaruawahia residents for the journey to work for people in the labour force who worked on the day of the census:-

Table 1 Travel Modes for Ngaruawahia

Mode	Number	Modal percentage of those who travelled
Worked at home	297	-
Did not work	351	-
Private vehicle (driver)	1968	70%
Company vehicle (driver)	441	16%
Passenger in private/company vehicle	123	4.4%
Public bus	51	1.8%
Motorcycle	54	1.8%
Cycle	36	1.3%
Pedestrian	114	4.1%
Other	15	
Total	3447	

The modal split for people whose workplace was in Ngaruawahia (and may or may not live in Ngaruawahia) was similar, but with less than 1% using a public bus.

The low proportions of journeys on foot and by cycle are probably partly indicative of the majority of employment being in Hamilton or not close to Ngaruawahia.

The current bus service for Ngaruawahia comprises hourly services to and from Hamilton (the Northern Connector Service 21) with more frequent services at peak times. Five buses leave Ngaruawahia for Hamilton between 6.50am and 7.50am and return at approximately half hourly intervals in the evening peak period. Approximately half of these services extend to Huntly. The route between Hamilton and Ngaruawahia runs through Horotiu, The Base and the Te Rapa Road industrial area.

4.3 Road Safety

Crash listings and collision diagrams are included in Appendix A for Ngaruawahia, Taupiri, Horotiu and Te Kowhai.

4.3.1 Ngaruawahia

A little over half of the reported crashes in Ngaruawahia in the 5 year period of 2009-2013 have occurred on the state highway (SH1) as might be expected because of the traffic volumes. Of the 120 reported crashes on SH1 there are clusters as shown in Table 2.

Table 2 Crash clusters on SH1 in Ngaruawahia

Location	Number	of reported crashes 2009-	2013
	Fatal or serious injury	Minor injury	Non-injury
River Road intersection	1	1	5
50m each way from Market Street intersection	0	2	9
Princess Street/Newcastle Street crossroads	0	2	14
30-100m south of Newcastle Street intersection	1	3	9

SH39 intersection	0	0	5
Havelock Road intersection	2	1	3

The River Road, SH39 and Havelock Road intersection crashes mostly have failure to give way exiting the side road as a factor. The higher severity of the crashes at the Havelock Road intersection reflects the higher speed environment . The posted speed is 70km/h posted but the intersection is only about 200 metres north of the 70/100km/h transition so northbound vehicles are likely to be travelling faster and were involved in five of the six reported crashes.

The mid-block crashes from Market Street through to south of Newcastle Street have a mix of crash types symptomatic of high through traffic volumes interacting with the vehicle and pedestrian movements generated by retail and commercial activity, with rear end type crashes being common.

The reduction in through traffic resulting from the Ngaruawahia Section of the Expressway should lead to a significant reduction in all these crashes.

Away from SH1 notable crash locations are shown in Table 3.

Table 3 Ngaruawahia crash clusters outside SH1 (Great South Road)

Location	Number of repor	rted crashes 2009	-2013	Comments
	Fatal or serious injury	Minor injury	Non-injury	
SH39/Saulbrey Road	0	1	3	Loss of control turning
Ellery Street/Herschel Street	1	3	2	Alcohol and speed over represented factors
Waingaro Road (rural length)	2	4	7	Mainly loss of control crashes with speed a common factor

Issues that may be relevant to the Structure Plan are traffic management on Great South Road from Market Street through to Newcastle Road, and the speed environment and access to Great South Road south of Ngaruawahia..

4.3.2 Taupiri

The crash history in Taupiri is dominated by the SH1/SH1B intersection as would be expected, with 15 crashes being reported in the 2009-2013 period. However, in 2012 the intersection was changed from a priority controlled T-intersection to a roundabout and since then there has been a reduction in the crash rate and severity with 4 non-injury and one minor injury crash reported.

Otherwise there is nothing of note in the crash history, with most of the other crashes which have been reported being on the former SH1 road from which much of the traffic has now been diverted.

There are no issues relevant to the Structure Plan.

4.3.3

The crash records on SH1 north of the built up area of Horotiu are characterised by a high number of loss of control crashes which is somewhat unexpected given that the alignment of the road involves only gentle radii and gradients. Most of the crashes have involved injury which is partly a consequence of the high speed environment (100km/h posted speed). Diversion of traffic to the Waikato Expressway should result in a proportionate reduction in crashes but as this stretch of road will become relatively busy again in time, investigation of the crashes and potential remedial treatments may be warranted in 5-10 years' time if a high number of crashes continue to occur.

A scattering of crashes has occurred through the built up area of Horotiu many of which have been related to access and manoeuvring. The speed limit was lowered from 80km/h to 70km/h through this area last year and traffic signals were introduced at the Horotiu Bridge Road/SH1 (former) intersection so the environment has changed significantly and a reduction in crashes and their severity would be expected, aided by the diversion of traffic to the Waikato Expressway. The traffic signals were initiated by the need to cater for traffic generated by the Northgate industrial development in the future. This has the potential to significantly change traffic movements in the immediate area as well as generating more pedestrian and cyclist activity.

At present there do not appear to be any road safety issues relevant to the Structure Plan.

4.3.4 Te Kowhai

The crash statistics through and near Te Kowhai are dominated by loss of control crashes on SH39, particularly towards the south near the Limmer Road intersection. The NZ Transport Agency has been implementing measures to help address such crashes and it is noticeable that no crashes were reported in 2012 or 2013.

There are no issues relevant to the Structure Plan.

5.0 Planning and Policy Framework

5.1 Waikato Integrated Land Transport Strategy

The Waikato Integrated Land Transport Strategy (WILTS) was prepared by Opus International Consultants in 2012 but has not progressed beyond a draft stage to be formally adopted. This Strategy was prepared in conjunction with the NZ Transport Agency, Waikato Regional Council and the Future Proof Transport Reference Group amongst other key stakeholders and aligns with the Waikato Regional Land Transport Strategy and the Future Proof sub-regional growth strategy.

One of the purposes of WILTS is to "provide direction on the future form and function of Waikato District Council's road network". Seven action areas were identified. An interpretation of how these action areas relate to the Ngaruawahia and environs area is shown in Table 1.

Table 4 Draft Waikato Integrated Land Transport Strategy Action Areas

Action Area	Commentary on draft Integrated Land Transport Strategy actions.
Planning for growth	Industrial and commercial growth only relevant at Horotiu and is already planned for in roading terms. Residential growth only envisaged in small cells not requiring any fundamental changes to the road network. Completion of the Waikato Te Awa cycle trail through to Ngaruawahia and on to Taupiri could cater for growth in commuter cycling.
Improving road safety	Continue to implement and review the Waikato District Road Safety Action Plan in line with the national Safer Journeys road safety strategy and the five priorities of Safe speeds, Safe roads and roadsides, Safe vehicles, Safe road use and Coordination.
Managing the transport network	Six actions were identified: Maintain, operate and preserve the existing network (as a first priority covering 90% of spending). Improvements to provide additional capacity and address safety issues (remaining 10% of spending). Review and update the form and function of the strategic and local road network in line with growth and tourism. During road rehabilitation activities consider opportunities to reconstruct the road to appropriate design widths (road hierarchy) and provision for walking, cycling and passenger transport. Manage route security and protect key strategic transport corridors. When implementing new transport projects ensure early consideration to avoid, remedy or mitigate adverse environmental effects.
Supporting freight transport	The local road network should be maintained and improved in line with the road hierarchy to ensure appropriate levels of service and efficient movement of freight. Identification of HPMV (high productivity motor vehicle) routes may be appropriate. Action under this heading will likely be limited to the Horotiu area, but has already largely been planned for with the Great South Road form between Horotiu and the Waikato Expressway Te Rapa

Action Area	Commentary on draft Integrated Land Transport Strategy actions.
	interchange.
Supporting rail transport	Examine the potential for passenger train services between Hamilton and Auckland including extending the current Auckland passenger train service. Ensure residential and freight intensive activities are located where there is good access to the rail network and safeguard land for rail connections with major producers/consumers. This action area has been taken into account in the zoning of the Northgate industrial area. Horotiu, Ngaruawahia and Taupiri are all located on the NIMTR should passenger services ever eventuate.
Promoting bus transport	Provide infrastructure for bus services and review on an ongoing basis the efficiency of existing services and the feasibility of new services. Monitor opportunities for park and ride at key locations. The development of the Northgate industrial area and the Rotokauri employment and residential areas may warrant new and improved bus services in the future.
Encouraging walking and cycling	A range of actions were identified for identifying and implementing walking and cycling facilities and otherwise encouraging these modes. This included making explicit provision in structure plans for walking and cycling.

5.2 District Plan

In roading terms there is nothing envisaged that will emanate from the Ngaruawahia and Environs Structure Plan which will need to be brought into the District Plan because the extent of growth envisaged is too small to require new additions to the network beyond what will be needed within subdivisions.

5.3 Urban Design

Waikato District Council recognises the Ministry for Environment's Urban Design Protocol (UDP) some of the principles of which are embodied in the Waikato Integrated Land Transport Strategy. Two of the key strands of the UDP which apply to transportation are:-

- Choice: promoting diversity and choice for people (e.g. enabling choice of transport modes to suit sustainable lifestyles, ensuring infrastructure and land use are designed and planned so as not to prejudice future transportation choices).
- Connections: creating safe and attractive links; placing a high value on walking, cycling and public transport; anticipating demands for all transport modes; facilitating access to services; efficient movement of goods and freight.

A separate Urban Design report has been prepared in parallel with this Integrated Transportation Assessment.

Whilst the philosophies and principles of the UDP may be accepted, the Structure Plan needs to strike a balance between what may be aspirational from an urban design perspective, what is practically and economically achievable, and what the residents and businesses preferences may be.

6.0 Land Use Assumptions

6.1 Industrial and commercial development

Other than some growth in retail, commercial and services activities in the heart of Ngaruawahia to support the local community the only significant employment growth is expected to be at Horotiu. It is understood that there is sufficient space for retail and commercial activity already carrying a Business zoning in Ngaruawahia.

As noted earlier, the Northgate industrial area at Horotiu has been identified as potentially generating up to 6,000 vpd, providing employment opportunities for Ngaruawahia, Hamilton and the environs.

6.2 **Community facilities**

No significant new community or sports facilities have been planned, but it is noted that a Papakaianga zoning is a possibility to enable development of iwi related activities and facilities.

6.3 Residential

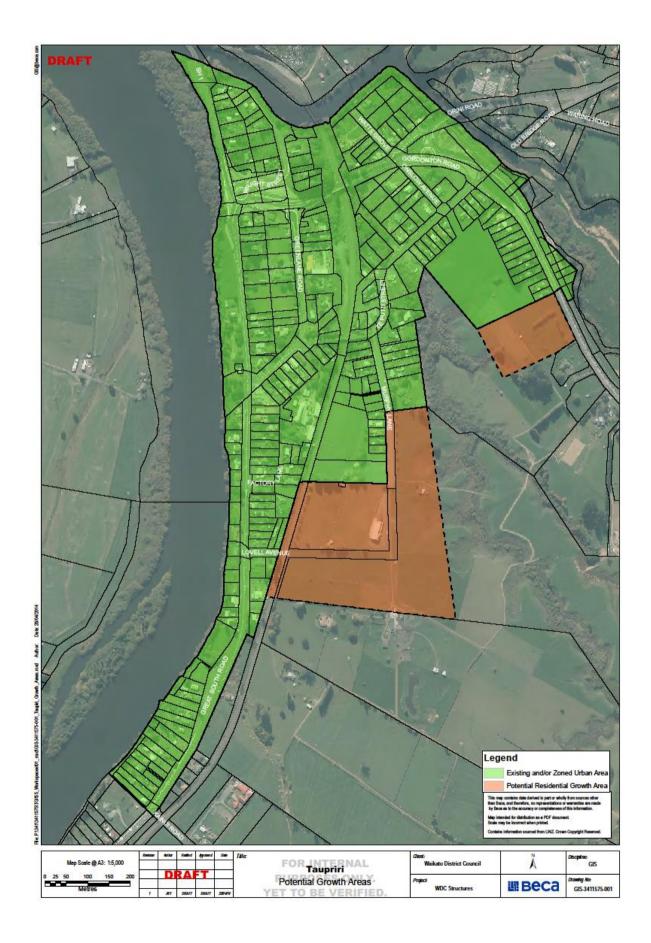
The urban design study undertaken for this Structure Plan preparation has identified some potential residential growth areas in Ngaruawahia, Taupiri, Horotiu and Te Kowhai. The most significant growth is expected to be at Ngaruawahia but is still modest. Plans are included on the following pages showing the potential residential growth areas.

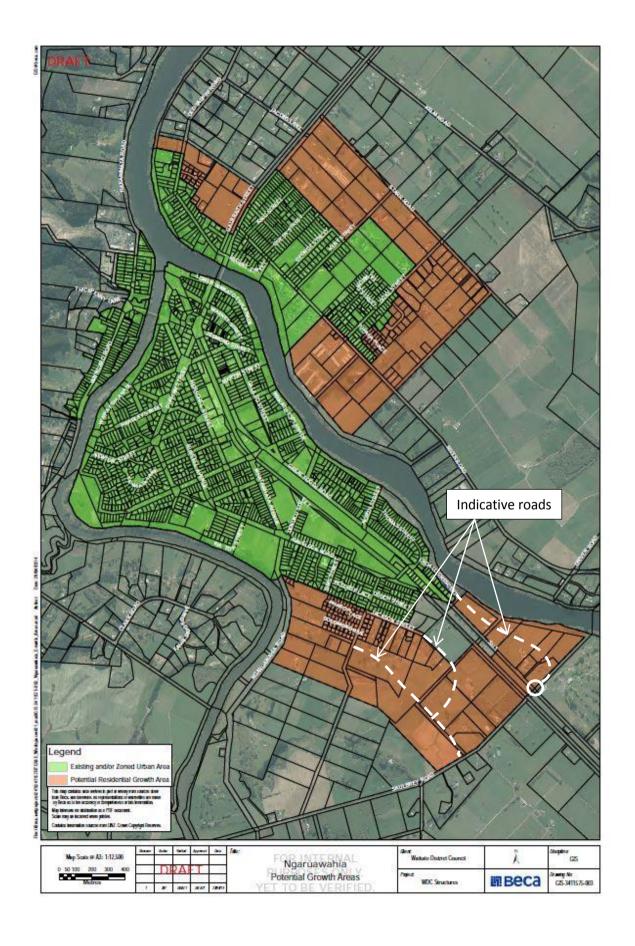
Waikato District Council has estimated about 20% growth in 20 years but this estimate was prior to the 2013 census results. Future Proof in 2009 stated population growth estimates which are higher (240% increase in Ngaruawahia's population between 2006 and 2041) but this is now looking unrealistically high as there has been minimal growth between 2006 and 2013. The Property Economics study conducted for this Structure Plan preparation forecast a considerably lower growth rate for the Ngaruawahia environs with just 22% population growth to 2041.

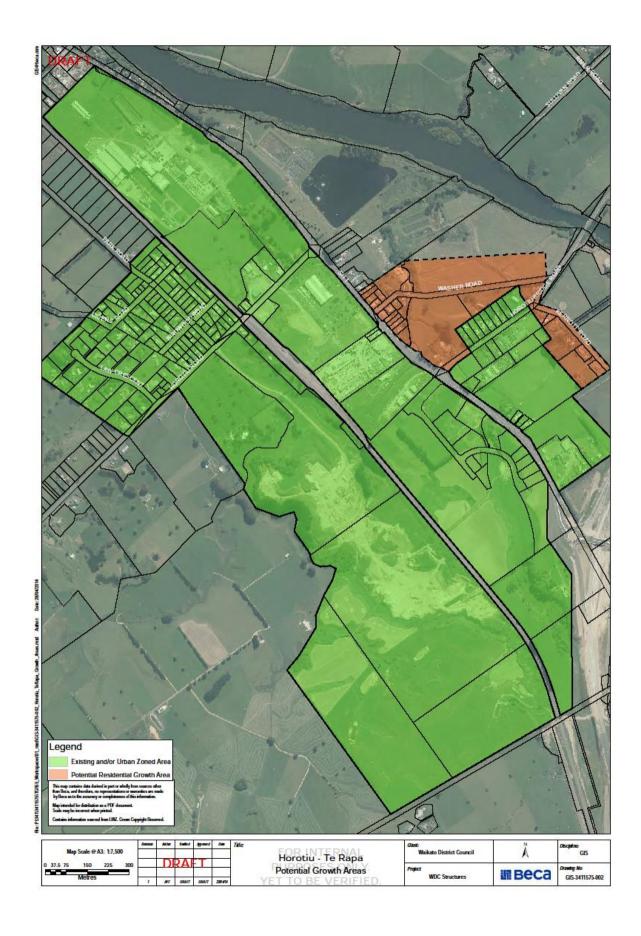
Water and wastewater servicing limitations are likely to limit growth at Te Kowhai until resolved.

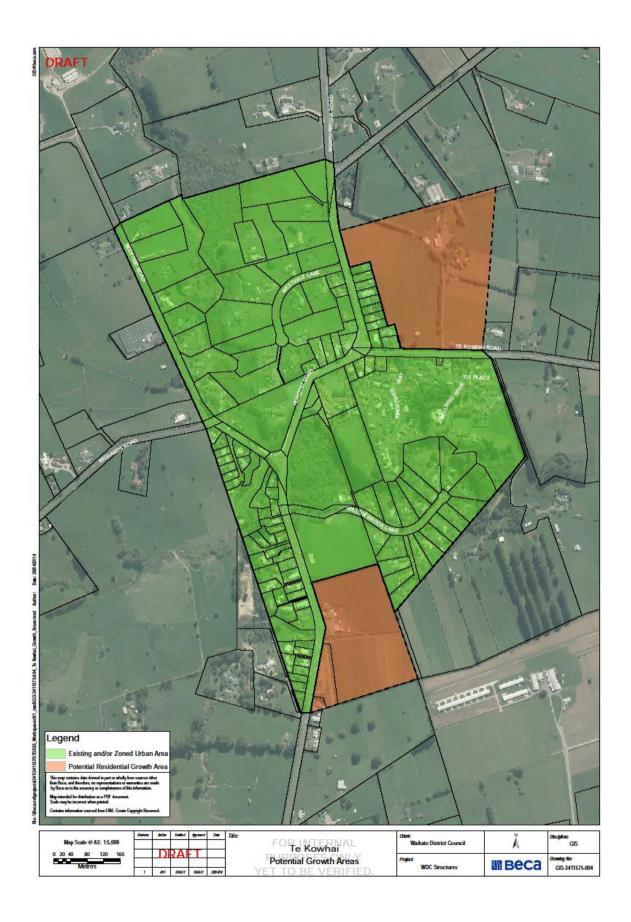
In view of all the above factors the 1% growth rate for the Structure Plan area seems to be an upper bound for transport planning, translating to a population of 6,800-7,000 in Ngaruawahia in the next 30 years. Traffic growth could be expected to mirror this 30% growth in population.

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7.0 Transportation Challenges and Opportunities

7.1 Serving residential growth areas

7.1.1 Taupiri

The NIMTR and a deep gully system limit growth to being served from culs-de-sac, being either an extension of Murphy lane or a new loop road off Te Putu Street. Whilst modest, these areas appear sufficient to satisy the currently anticipated demand for residential growth in Taupiri. Should any further growth be required it would most appropriately involve extending Murphy Lane to link with Kainui Road to ensure some connectivity was provided. Murphy lane should be developed with an alignment and cross-section that does not hamper such a future extension.

7.1.2 Ngarurawahia

On the north-eastern side of Ngaruawahia there is a ready grid network of streets formed by Starr Road, Kent Street, Duke Street, an unformed paper road on the south-eastern side, plus extensions to King Street and Queen Street. The land between River Road and the Waikato River could also readily be served by culs-de-sac from River Road.

On the western side of the NIMTR at the northern end of the town, Galbraith Street and Old Taupiri Road provide a framework for the area between to be served from a road connecting the two streets.

Topographical constraints limit the easily serviceable area at the southern end of the town west of the NIMTR. Any subdivision in this area should be undertaken in such a way as to provide or at least protect connectivity between Jackson Street, Rangimarie Street and Saulbrey Road. This will not only be beneficial for servicing and public transport connectivity but will reduce reliance on the Saulbrey Road/Great South Road intersection. As traffic volumes grow on Great South Road coupled with growing traffic volumes from development off Saulbrey Road, this intersection may become a safety concern.

One solution to the potential Saulbrey Road safety concern would be to introduce a roundabout or traffic signals at this location on Great South Road which could incorporate a fourth leg to the north east able to serve the residential land earmarked for development between Great South Road and the Waikato River. This block of land should ideally connect to Croall Crescent or have another access to Great South Road, subject to the speed limit on Great South Road being lowered in the future. Such a road could also provide a safer option for accessing the Ngaruawahia Golf Club than its present access on Great South Road. The intersection would form a logical threshold to a 70km/h or 80km/h speed limit, extending the existing 70km/h speed limit from Ngaruawahia. The choice between a roundabout and signals would need to consider, amongst other things, compatibility with the nearby rail crossing. With an appropriate lane configuration traffic signals could be linked to the rail crossing barriers and warning lights to avoid queues blocking Great South Road.

The railway creates a degree of severance for the town although this is moderated in terms of there being four level crossings within the township at Waingaro Road, Princess Street, Ellery Street and Havelock Road. At Princess Street and Waingaro Road there is minimal queuing length on the Great South Road side of the level crossings, making it important to maintain sufficient left and right turn lane lengths on Great South Road to avoid through traffic being impeded by queues.

The level crossings at Ellery Street and Havelock Road have better queuing lengths available in both directions of approach to the crossings. The Havelock Road crossing in particular will experience increased traffic with the proposed residential growth to the south and consequently a little longer queues and delays when trains pass through. However, the delays and queues could only be avoided by grade separation and will be a long way short of justifying that even if it was practically achievable, which is questionable.

Advanced signage of queues, potentially of an electronic type activated by approaching trains could be considered if queues presented safety issues at any of the level crossings.

7.1.3 Horotiu

Subject to some upgrading of the road corridor and its intersection with Great South Road, Washer Road can readily serve the small area earmarked for residential growth in Horotiu.

7.1.4 Te Kowhai

The southern potential growth area identified for Te Kowhai could appropriately be served via one new intersection on Horotiu Road. Direct property access to Horotiu Road should be avoided as it is likely to remain a relatively highly trafficked road, even with the diversion of SH39 to Limmer Road.

The northern potential growth area has frontage to both Ngaruawahia Road and Te Kowhai Road. Given the existence of the Westvale Road intersection and other existing accesses further north, it is recommended that the extent of the growth area be curtailed to finish in line with the northern boundary of the last existing pproperty fronting Ngaruawahia Road in the 50km/h speed zone. Access to the block would then be taken solely from Te Kowhai Road. This access could comprise both a local road intersection and frontage access. The frontage access would complement the development on the southern side and reinforce a 50 km/h speed environment.

7.2 Great South Road, Ngaruawahia

The changed traffic environment on Great South Road following the removal of most state highway traffic presents opportunities for traffic management measures to aid retail and commercial activities and to enhance the environment. It is understood that the 'Thermal Highway' tourist route will remain as being signed through Ngaruawahia and the function of being a service centre for car traffic could be promoted, offering toilets, petrol and food outlets for travellers.

Enhancements could include :-

- Angle parking if there is demand for more parking
- Narrowing of the carriageway to make it appear less like a major through route and to aid pedestrians
 crossing
- A small roundabout at the Great South Road/Martin Street intersection to moderate vehicle speeds and
 provide some opportunity for beautification. Alternatively the treatment could just be some kerb
 extensions to create something of a threshold or gateway. The service station access on the southeastern corner is a complication for any treatment at this intersection.
- A roundabout at the Great South Road/Jesmond Street intersection to moderate vehicle speeds and improve access to and from Jesmond Street (right turns are currently prevented by a median island on Great South Road)
- Removal of the left turn lane exiting Waingaro Road so that the Great South Road carriageway can be
 narrowed. This would create a less road dominated appearance, and would avoid the current
 acceleration and merge arrangement which is less safe than a conventional high angle 'Give Way'
 approach.

Any works carried out will be largely driven by environmental and urban design objectives rather than traffic objectives as the existing layout can continue to function safely and efficiently. Any design would therefore need to be undertaken jointly by urban designers and traffic engineers. The above suggestions are shown on the plan on the following page.

There is also scope around the fringes of the central area to improve the facilities for pedestrians accessing the central area and the domain and community facilities on the western side of Great South Road. Examples are constructing footpaths on Waingaro Road and around the Jesmond Street/Galileo Street/Newcastle Street intersection.



7.3 Modal Split

Ngaruawahia will not have the sort of traffic congestion issues which often provide incentives to increase use of public transport and walking and cycling, although traffic generated within Ngaruawahia may contribute to congestion in Hamilton. That aside, for environmental and health reasons it would be positive to increase the current low percentages of journeys, particularly to and from work, which are made using public transport or on foot or by bicycle.

Review of services should be carried out regularly. Routing buses through the residential areas on both sides of the river, rather than only along Great South Road would reduce walking distances. Connectivity with other services may also help patronage. A satellite transport hub at The Base has been raised as an option and could conveniently provide better connectivity, possibly with a circular service running regularly between Ngaruawahia and The Base via Horotiu and the Northgate industrial estate.

The completion of the Te Awa cycleway between Ngaruawahia and Hamilton will provide an attractive traffic free route for cyclists. For more confident cyclists Great South Road now also provides a good option, having wide shoulders and lower traffic volumes than previously. Maintenance of debris free shoulders and preferably resurfacing with asphalt will aid the attractiveness to cyclists.

Passenger rail is a possibility in terms of accessibility to the rail lines but would require considerable expenditure on station facilities at Horotiu, Ngaruawahia and Taupiri as well as being dependent on the wider viability of a service running between Hamilton and Auckland. It seems unlikely to be a reality in the foreseeable future but is something on which a watching brief should be kept.

7.4 Glen Massey and Waingaro Road

There are no structure planning roading issues envisaged for Glen Massey. The key concern for Glen Massey residents, and other users of Waingaro Road such as residents of Pukemiro and Glen Afton, is one of route security. This relates to ongoing maintenance and improvements where possible to minimise the occurrence and consequences of closures due to slips or flooding, and to maintain and improve safety.

8.0 Conclusions

The limited growth projections for Ngaruawahia and its environs, coupled with the removal of state highway traffic from the historical routes of SH1 and SH39 mean there is little in the way of structure planning required from a roading perspective.

Opportunities exist for some traffic management measures to complement potential environmental upgrading of Great South Road through the commercial part of Ngaruawahia. Residential subdivision in Ngaruawahia, Taupiri and Horotiu is of a scale such that it can be largely managed in roading terms through the normal subdivision and Technical Specification compliance requirements in the District Plan.

The only exceptions that require some protection through a Structure Plan is a proposal to form a future crossroads at the intersection of Great South Road and Saulbrey Road controlled either by traffic signals or as a roundabout, and ensuring connectivity between Saulbrey Road and the existing urban development to the north. The intersection would cater safely for increasing traffic from subdivision off Saulbrey Road, provide access to development between Great South Road and the Waikato River and could also provide a safer access to the Ngaruawahia Golf Club.

Appendix A

Crash Listings and Collision Diagrams

Ngaruawahia crash listing

First Street	D Second street I or landmark	Crash	Date	Day Time	me Description of Events	Crash Factors	Road	Natural Light	Weather	r Junction	Cntrl	Tot Inj F S M
	Distance R	-	YYYYY	у роо нимм	APA	(ENV = Environmental factors)	-					A F R R R
HAVELOCK ROAD	I JACKSON ST	201005176	30/09/2010	0 Thu 0503	33 VAN1 SBD on HAVELOCK ROAD hit PEDESTRIAN2 crossing road from right side	PEDESTRIAN2 Intoxicated non-driver	Dry	Dark	Fine	T Type Junction	Give Way Sign	٦
HAVELOCK ROAD	50S RAIL XING	2930532	03/01/2009	9 Sat 1345	15 CARI SBD on HAVELOCK ROAD lost control turning right, CARI hit Fence on right hand bend	CAR1 too fast entering corner, lost control when turning ENV: slippery, road slippery (rain)	Wet	Overcast	Light Rain	Unknown	M/A	
HAVELOCK ROAD	A RAIL XING	201004123	16/07/2010	0 Fri 1743	13 CARI NBD on HAVELOCK ROAD hit train, CARI hit Train	CAR1 alcohol test above limit or test refused, did not stop at flashing red lights (rly xing)	Wet	Dark	Fine	Unknown	Traffic Signal	н
HAVELOCK ROAD	50W SH 39	201202292	03/06/2012	2 Sun 0030	30 CARI WBD on HAVELOCK ROAD lost control; went off road to right, CARI hit Tree	CARL alcohol test above limit or test refused, too fast on straight, lost control	Dry	Dark	Fine	Unknown	N/A	ю
HERSCHEL ST	I BLIERY ST	2931414	24/01/2009	9 Sat 1300	00 CAN1 WBD on ELLERY ST hit CAR2 crossing at right angle from right	CAR2 failed to give way at give way sign, didnt see/look when visibility limited by roadside features ENV: visibility limited by trees	Dry	Bright	Fine	X Type Junction	Give Way Sign	
HERSCHEL ST	I PRINCES ST	201238956	22/09/2012	2 Sat 1239		CAR1 following too closely, failed to notice car slowing	Dry	Bright	Fine	Roundabo	Give Way Sign	
HERSCHEL ST	I PRINCESS ST	201241243	02/12/2012	2 Sun	CAR1 NBD on HERSCHEL ST lost control turning right, CAR1 hit Karb, Post Or Pole on right hand bend	CAR1 too fast entering corner, lost control when turning ENV: heavy rain	Wet	Overcast	Heavy Rain	Roundabo	Give Way Sign	
HILLVIEW ST	50S WAIPA ESPLANADE	201324342	03/12/2013	3 Tue 1718		CAR1 didnt see/look behind when reversing/manoeuvering, wrong pedal ENV: entering or leaving private house / farm	Dry	Bright	Fine	Driveway	Nil	Н
JACKSON ST	20S PETERS PLACE	201031818	17/03/2010	0 Wed 1530	NO CARI NBD on JACKSON ST hit rear of CAR2 turning right from left side	CARl overtaking vehicle signaling right turn, failed to notice indication of vehicle in front ENV: entering or leaving private house / farm	Dry	Bright	Fine	Driveway	Nil	
JACOBS LANE	A GALBRAITH ST	201358160	20/12/2013	3 Fri 0130	0 SUVI NBD on GALBRAITH ST lost control turning left, SUVI hit Fence	SUVI lost control when turning	Dry	Dark	Fine	Unknown	Ni1	
JESMOND ST	30W NEWCASTLE ST	201038434	03/07/2010	0 Sat 1100	O CAR1 EBD on JESMOND ST hit CAR2 manoeuvring	CAR1 didnt see/look behind when changing lanes, position or direction	DΣΥ	Overcast	Fine	Unknown	Give Way Sign	
JESMOND ST	50E SH 1N	2939655	25/05/2009	9 Mon 1500	O SUVI EBD on JESMOND ST hit CAR2 manoeuvring	SUVI didnt see/look behind when reversing/manoeuvering	Dry	Overcast	Fine	Unknown	N/A	
KENT ST	I GEORGE ST	201330224	27/01/2013	3 Sun 1855	.5 CAR2 turning right hit by oncoming CAR1 NBD on KENT ST	CARZ alcohol test above limit or test refused, failed to give way when turning to non-turning traffic, didnt see/look when required to give way to traffic from another direction	Dry	Bright	Fine	T Type Junction	Give Way Sign	
LOWER WAIKATO ESPLANADE	220E BANDSTAND ROAD	201239335	11/10/2012	2 Thu 1120	0 CARI EBD on LOWER WAIKATO ESPLANADE hit parked veh, CARI hit Parked Vehicle	CAR1 too far left/right, attention diverted	Dry	Bright	ri ine	Unknown	N/A	
Market st	00E SH 1N	201133260	21/04/2011	1 Thu 1804	4 TRUCKI WBD on MARKET ST hit Parked Vehicle while manoeuvring	TRUCKI alcohol test result unknown, didnt see/look behind when reversing/manoeuvering ENV: entering or leaving specialised liquor outlet	Dry	Dark	Fine	Driveway	N/A	
OLD TAUPIRI ROAD	200W GALBRAITH ST	201030660	201030660 14/01/2010 Thu 1832 CARI side	Thu 183	2 CAR1 WBD on OLD TAUPIRI ROAD sideswiped by CAR2 turning left	CAR1 misjudged intentions of another party ENV: entering or leaving private house / farm	Dry	Bright	Fine	Driveway	Nil	

First Street	D Second street I or landmark	Crash	Date	Day Time	Description of Events	Crash Factors	Road	Natural Light	Weather	er Junction	Cntrl	Tot Inj FSM
	Distance R		IDD/MM/YYYY	рро нимм		(ENV = Environmental factors)						
OLD TAUPIRI ROAD	240S JACOBS LANE	20120011	201200115 15/11/2012	Thu 1818	CARL NBD on OLD TAUPIRI ROAD lost control turning right, CARL hit Fence on right hand bend	CAR1 alcohol test above limit or test refused, too fast entering corner, lost control when turning, worn tread on tyre	Dry	Overcast	Fine	Unknown	Nil	2 1 2
OLD TAUPIRI ROAD	A JACOBS LANE	2901296	30/01/2009	Fri 1734	CAR1 SBD on OLD TAUPIRI ROAD lost control turning right, CAR1 hit Fence, Other on right hand bend	CAR1 alcohol test result unknown, illness with no warning (eg heart attack)	Dry	Bright	Fine	T Type Junction	Nil	1
TAUPIRI ROAD	10S NGAERE ST	201005668	3 28/10/2010	Thu 0100	CARI NBD on OLD TAUPIRI ROAD lost control turning right, CARI hit Kerb, Parked Vehicle, Traffic Sign, SUVZ hit Fence, House Or Bldg on right hand bend	CAR1 alcohol test above limit or test refused, too fast entering corner, lost control when turning	Dry	Dark	Fine	T Type Junction	Nil	H
OLD TAUPIRI ROAD	A RAIL XING	201130063	3 14/01/2011	Fri 1715	CARL EBD on OLD TAUPIRI ROAD hit TRUCKZ crossing	CAR1 did not see or look for other party until too late TRUCK2 did not see or look for other party until too late	Dry	Bright	Fine	Unknown	Traffic Signal	
PRINCESS ST	I HERSCHEL ST	201201069	9 14/01/2012	Sat 0945	CAR1 SBD on HERSCHEL ST hit CYCLIST2 (Age 62) crossing at right angle from right	CARI failed to give way at give way sign, attention diverted by other traffic, didnt see/look when required to give way to traffic from another direction	Dry	Bright	Fine	Roundabo	Give Way Sign	
PRINCESS ST	I HERSCHEL ST	201036136	30/05/2010	Sun 1035	SUVI NBD on HERSCHEL ST hit VANZ crossing at right angle from right	SUVI failed to give way at give way sign, attention directed by driver dazzled by sun/lights, didth see/look when required to give way to traffic from another direction ENV. dazzling sun	Dry	Bright	Fine	Roundabo	Give Way Sign	
ROAD	30E DUKE ST	2941437	30/06/2009	Tue 0100	CARL NBD on RIVER ROAD lost control; went off road to left, CARL hit Parked Vehicle	CARl mental illness (eg depression), intentional collision	Wet	Dark	Fine	Unknown	N i. 1	
ROAD	840S DUKE ST	2901293	08/02/2009	Sun 2355	CARl NBD on RIVER ROAD lost control turning left, CARl hit Cliff Bank, Ditch	CAR1 too far left/right, lost control when turning	Dry	Dark	Fine	Unknown	N/A	1
ROAD	I DUKE ST	2932384	02/03/2009	Mon 0820	CARI SBD on RIVER ROAD hit SUV2 turning right onto RIVER ROAD from the left	SUV2 failed to give way at stop sign, didnt see/look when required to give way to traffic from another direction	Dry	Bright	Fine	T Type Junction	Stop Sign	
ROAD	100S KING ST	201133341	17/01/2011	Mon 1623	CAR1 SBD on RIVER ROAD lost control; went off road to right, CAR1 hit Fence	CAR1 lost control, worn tread on tyre ENV: road slippery (rain)	Wet	Overcast	Light Rain	Unknown	N/A	
ROAD	I KING ST	201231184	29/04/2012	Sun 1735	CARI NBD on RIVER ROAD lost control turning right, CARI hit Kerb, Tree on right hand bend	CAR1 too fast entering corner, lost control under heavy acceleration ENV: road slippery (rain)	Wet	Dark	Light Rain	T Type Junction	G ive Way Sign	
ROAD	I QUEEN ST	2941107	25/09/2009	Fri 1822	CAR1 SBD on QUEEN ST missed inters or end of road, CAR1 hit Fence, House Or Bldg	CAR1 too fast on straight, new driver showed inexperience ENV: road slippery (rain)	Wet	Dark	Light Rain	T Type Junction	Stop	
ROAD	60S REGENT ST	201201964	28/03/2012	Wed 0802	CAR1 SBD on RIVER ROAD hit CYCLIST2 (Age 6) crossing	CYCLIST2 failed to give way, did not see or look for other party until too late	Dry	Bright	Fine	Опкломп	N/A	∺
RIVER ROAD	80E SH 1N	201135114	17/04/2011	Sun 1730	CAR1 SBD on RIVER ROAD lost control on straight and hit CAR2 head on, CAR2 hit Kerb	CAR1 lost control ENV: road slippery (rain)	Wet	Overcast	Light Rain	Unknown	N/A	
WAIKATO ESPLANADE	340E BELT ST	2944899	21/11/2009	Sat 1230	CAR1 EBD on WAIKATO ESPLANADE missed inters or end of road, CAR1 hit Fence	CAR1 evading enforcement	Dry	Overcast	Fine	Unknown	Nil	
WAINGARO ROAD	40N CLARK ROAD	2941106	26/09/2009	Sat 0750	VANI NBD on WAINGARO ROAD lost control turning left, VANI went Over Bank, Water/River	VAN1 lost control when turning ENV: road slippery (rain)	Wet	Overcast	Light Rain	Unknown	N/A	
WAINGARO ROAD	10S COENEN ST	2939851	12/08/2009	Wed 1525	OTHER1 NBD on WAINGARO ROAD hit	VAN2 didnt see/look behind when	Drv	Owercast	6	E		

First Street	D Second street I or landmark	Crash	Date	Day	/ Time	Description of Events	Crash Factors	Road	Natural Light	Weather	r Junction	Cntrl	Tot Inj FSM
	Distance R	= 0	DD/MM/YYYY	GGG A	HHMM		(ENV = Environmental factors)						
WAINGARO ROAD	I EYRE ROAD	201040476	6 17/09/2010	.0 Fri	1 2030	CARI SBD on WAINGARO ROAD hit obstruction, CARI hit Other	ENV: road obstructed (fallen tree or branch)	Wet	Dark	Heavy Rain	T Type Junction	Give Way Sign	
WAINGARO ROAD	40E HAKARIMATA ROAD	201006116	6 21/12/2010	.0 Tue	₫°.	SUV1 EBD on WAINGARO ROAD hit rear end of SUV2 stop/slow for queue	SUV1 failed to notice car slowing, failed to notice warning sign	Dry	Bright	Fine	Unknown	N/A	
WAINGARO ROAD	2000S HAKARIMATA ROAD	2932376	24/02/2009	9 Tue	1815		TRUCK1 too far left/right, attention diverted by passengers, driver over-reacted	Dry	Bright	Fine	Unknown	N/A	
WAINGARO ROAD	I HAKARIMATA ROAD	201241723	3 09/09/2012	.2 Sun	n 0240	CARL WBD on WAINGARO ROAD lost control turning left, CARI hit Guard Rail	CARI alcohol suspected, too fast entering corner, lost control when turning ENV: road slippery (rain)	Wet	Dark	Light Rain	T Type Junction	Give Way Sign	
WAINGARO ROAD	140W HERSCHEL ST	201035001	1 09/05/2010	uns O	0300	CAR1 EBD on WAINGARO ROAD lost control; went off road to left, CAR1 hit Bridge	CAR1 alcohol suspected, lost control	1 Dry	Dark	Fine	Unknown	N/A	
WAINGARO ROAD	I SAMPSON ST	201040256	6 16/08/2010	.0 Mon	1445	TRUCK1 EBD on SAMPSON ST lost control turning left	TRUCK1 too fast entering corner, lost control when turning	Dry	Bright	Fine	T Type Junction	Nil	
WAINGARO ROAD	400W TE PUROA ROAD	201001972	2 01/03/2010	nom 0	n 2240	CARL WBD on WAINCARO ROAD lost control turning right, CARl hit Ditch on right hand bend	CAR1 too fast entering corner, lost control when turning	Dry	Dark	Fine	Unknown	Nil	П
WAINGARO ROAD	400M TE PUROA ROAD	201101451	1 26/01/2011	Ned T	1505	MOTOR CYCLEI WBD on WAINGARO ROAD hit TRUCK2 doing driveway manoeuvre	MOTOR CYCLEI suddenly swerved to avoid whole, didnt see/look when visibility limited by roadside features TRUCKZ didnt see/look when visibility limited by roadside features ENV: visibility limited by trees, entering or leaving private house / faum	Dry	Bright	Fine	Driveway	N/A	п
WAINGARO ROAD	500W TE PUROA ROAD	20103424	201034242 18/04/2010		Sun 0500	SUVI EBD on WAINGARO ROAD lost control turning left, SUV1 hit Tree	SUV1 fatigue due to working long hours before driving	Dry	Dark	Fine	Unknown	N/A	
WAINGARO ROAD	750W TE PUROA ROAD	2900014	20/01/2009	9 Tue	1727	MOTOR CYCLEI WED on WAINGARO ROAD lost control on curve and hit SUV2 head on, MOTOR CYCLEI hit Ditch	MOTOR CYCLEI alcohol not suspected, tested and -ve (MoT use only), lost control due to vehicle fault, puncture or blowout	Dry	Bright	Fine	Unknown	lin	-
WAINGARO ROAD	1000W TE PUROA ROAD	2932383	04/03/2009	9 Wed	1 0735	CARI EBD on WAINGARO ROAD lost control; went off road to right, CARI hit Cliff Bank, Other	CAR1 attention diverted by driver dazzled by sun/lights ENV:	Dry	Bright	Fine	Unknown	N/A	
WAINGARO ROAD	1240W TE PUROA ROAD	201003260	0 24/03/2010	0 Wed	1219	CARI EBD on WAINGARO ROAD lost control turning left, CARI went Over Bank, Post Or Pole, Traffic Sign, Tree	CARI too fast entering corner, lost control when turning, new driver showed inexperience, driver overreacted ENV: heavy rain	Wet	Overcast	Heavy Rain	Unknown	N/A	1 1
WAINGARO ROAD	2060W TE PURCA ROAD	2903486	28/02/2009	9 Sat	1730	CAR1 EBD on WAINGARO ROAD lost control on curve and hit SUV2 head on	CAR1 too fast entering corner, lost control when turning	Wet	Overcast	Light Rain	Unknown	N/A	2
WAINGARO ROAD	2100W TE PUROA ROAD	201233686	6 19/06/2012	2 Tue		CAR1 EBD on WAINCARO ROAD lost control turning left, CAR1 went Over Bank	CAR1 lost control when turning, stolen vehicle	Dry	Dark	Fine	Unknown	N/A	
WAINGARO ROAD	2100W TE PUROA ROAD	201234977	7 04/06/2012	2 Mon	_	CAR1 EBD on WAINCARO ROAD lost control turning left, CAR1 went Over Bank	CAR1 lost control when turning, stolen vehicle	Drγ	Dark	Fine	Unknown	N/A	
WAINGARO ROAD	2100W TE PURCA ROAD	201203746	5 31/07/2012	2 Tue	1655	CARI WBD on WAINGARO ROAD lost control turning right, CARI hit Fence on right hand bend	CAR1 alcohol test above limit or test refused, lost control when turning, impared ability due to old age	Dry	Twilight	Fine	Unknown	N/A	н
WAINGARO ROAD	2100W TE PUROA ROAD	20133022	201330221 29/01/2013 Tue 1800	3 Tue	1800	CAR1 EBD on WAINCARO ROAD lost control turning left	CAR1 alcohol suspected, too fast entering corner, lost control when turning, stolen vehicle	Dry	Bright	Fine	Unknown	N/A	

The column The	First Street	D Second street I or landmark	Crash Number	Date	Day Time	ne Description of Events	Crash Factors	Road	Natural Light	Weather	r Junction	Cntrl	
The control of the		Distance [R]	=	DD/MM/YYY	DDD	M	(ENV = Environmental factors)	_					A E I
The control of the	WALLBANK ROAD	15W SH 1N	201038698		Tue	CARI NBD on train, CARI Train	CAR1 too far left/right, parked or stopped not clear of rail crossing ENV: heavy rain	Wet	Dark	Heavy Rain	Unknown	Stop	
THE PROPERTY NOTE 1980 1912 1913 1914 1915 1	WESIGATE ST		2901228	21/01/2009	X	MOTOR CYCLEI WBD on WESTGATI lost control; went off road left, MOTOR CYCLEI hit Kerb, Or Pole, Other	ost control,	Dry	Bright	Fine	Unknown	N/A	F.
NUMBER N	SO SO	GREAT			Fri	CAR1 and CAR2 both EBD c SOUTH ROAD and turning;	CAR2	Dry	Dark	Fine	Roundabo	Give Way Sign	
TREMCASTIVE TREATMENT OF THE PROPERTY OF THE	1N//0	NEWCASTLE	201036136		Fri	CAR1 WBD on NEWCASTLE ST hit crossing at right angle from	CAR1 failed to give way at give way sign, inattentive: failed to notice intersection or its stop/give way control, overseas/migrand driver failed to adjust to NZ road rules and road conditions ENV: road slippery (rain)		Dark	Light Rain	X Type Junction		
1 Mighth ST 2336477 2336478 2336477 2336478 2336477 2336478	1N//0	I NEWCASTLE ST	201139160	16/11/2011	Wed 080	CAR2 turning right hit by SUV1 WED on NEWCASTLE ST	SUV1 misjudged intentions of another party CAR2 failed to give way when turning to non-turning traffit, misjudged intentions of another party ENV: road slippery (rain)	Wet	Overcast	Light Rain	X Type Junction		
TRINCESS 5T 293594 10/69/2019 5nn Classing at right angle from right 1818/ESS 5T 1818 2016/2019 2nn Classing at right angle from right 1818/ESS 5T 1818 2016/2019 2nn Classing at right angle from right 1818/ESS 5T	1N//0		2904075	02/08/2009		CAR1 SBD on NORTH ST lost on curve and hit CAR2 head	alcohol test above limit or refused, lost control when ng, showing off wheelspins		Bright	Fine	T Type Junction		
FRINCESS ST 20103116 29/06/2010 To 1815 STUYI END ON PRINCESS ST ALL CARE STUTION FROM THE CONTINUE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF PRINCESS ST ALL CARE STORY LEAD OF PRINCESS ST ALL CARE STORY LEAD OF CONTINUE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE END ON PRINCESS ST ALL CARE STORY LEAD OF CARE AND ALL CARE AND AL	1N//0	PRINCESS	2935924	10/05/2009	Sun	CAR1 EBD on PRINCESS ST crossing at right angle	failed to give way at give		Dark	Heavy Rain	X Type Junction	Give Way Sign	
PRINCESS ST 20104272 6/12/2010 No. 1427 CARL EBD on PRINCESS ST HIT CAR2 CARL Falled to give way at gi	1N//0	PRINCESS	201037146		Tue	SUVI EBD on PRINCESS ST crossing at right angle	SUVI failed to give way at give way sign, inattentive: failed to notice intersection or its stop/give way control, attention diverted by navigation device		Dark	Fine	X Type Junction	Give Way Sign	
TRIVER ROAD 20113494 16/04/2011 Sat 230 CAR1 WBD on RIVER ROAD missed CAR1 alcohol test above limit or factor of fac	1M//0	PRINCESS	201044273			CARI EBD on PRINCESS ST hit crossing at right angle from	CAR1 failed to give way at give way sign, didnt see/look when required to give way to traffic from another direction	Dry	Bright	Fine	X Type Junction		
INV519/12:901 C1035020 C9/05/2010 Sun 2355 GRRI NBD on RIVER ROAD missed the state above limit or straight, best or lead of road, CRRI hit least reflective, worn tread on tyre institution of control of road to left, CARI NBD on SH IN lost control. CRRI fatigue due to lack of sleep Dry Overcast Fine Unknown N/A 20121173114 C9/08/2012 Fig CARI NBD on SH IN lost control. CARI lead to lack of sleep CARI NBD on SH IN lost control of cari lost crailer from SUNI nathenties, misjudged speed, Dry Bright River Name Name CARI NBD on SH IN lost control of cari lost crailer from SUNI nathenties, misjudged speed, Dry Bright River CARI NBD on SH IN lost control of cari lost crailer from SUNI nathenties, misjudged speed, Dry Bright River CARI NBD on SH IN lost control of cari lost crailer from SUNI nathenties, misjudged speed, Dry Bright River CARI NBD on SH IN lost cari lost crailer from SUNI nathenties of CARI NBD on SH IN lost cari lost crailer from SUNI nathenties of CARI NBD on SH IN lost cari lost car	1N//0	RIVER	201134945		Sat	CARL WBD on RIVER ROAD inters or end of road, Cliff Bank, Other	alcohol test refused, too	Wet	Dark		T Type Junction		
32 150N WALLBANK ROAD 20137114 09/08/2013 Tu 1/05/2012 Fr	0//NI	RIVER	201035002		Sun	CAR1 NBD on RIVER ROAD inters or end of road, Post Or Pole	alcohol test above refused, too fast entive, worn tread	Dry	Dark	Fine	T Type Junction	Stop Sign	
412 60N KELM ROAD 201231175 11/05/2012 Fri 0330 CARI NBD on SH IN lost control; asleep) 456 15N KELM ROAD 2901768 20/02/2009 Fri 1538 CARI SBD on SH IN lost control on Slippery (rain) 457 20S KELM ROAD 201200108 31/10/2012 Wed 0516 TRUCKI NBD on SH IN hit PEDESTRIAN2 crossing heedless of SIGH SBD or SH IN hit PEDESTRIAN2 crossing heedless of SIGH SBD or SH IN hit PEDESTRIAN2 crossing heedless of SIGH SBD or SH IN hit PEDESTRIAN2 crossing heedless of SIGH SBD or SH IN hit PEDESTRIAN2 crossing heedless of SIGH SBD or SH IN hit PEDESTRIAN2 crossing heedless of SIGH SBD or SH IN hit PEDESTRIAN2 crossing heedless of SIGH SBD or SH IN hit PEDESTRIAN2 crossing heedless of SIGH SIGH SIGH SIGH SIGH SIGH SIGH SIGH	1N/519/12:32	150N WALLBANK ROAD	201137114		Tue	CAR1 NBD on SH 1N lost went off road to left, Ditch	fatigue due to lack of	Dry	Overcast	Fine	Unknown	N/A	
15N KELM ROAD 2901768 20/02/2009 Fri 1538 CARL SBD on SH IN lost control on Slippery (rain) 20S KELM ROAD 201200108 31/10/2012 Wed 0518 TRUCKI NBD on SH IN hit PEDESTRIAN2 Crossing heedless of Dry Dark Fine Unknown Nil 1 Side 1 STARR ROAD SUVI hit Ditch distance or position distance or position 31/10/2012 Way 31/10/2019 Road or trailer from SUVI hit Ditch 351/10/2019 Road or trailer from SUVI hit Ditch 351/10	1N/519/12.412		201231175			CAR1 NBD on SH 1N lost went off road to left, Ditch	tigue (drowsy, tired,	Dry	Dark	Fine	Unknown	N/A	
20S KELM ROAD 201200108 31/10/2012 Wed 0516 TRUCKI NBD on SH IN hit PEDESTRIAN2 EEDESTRIAN2 CIOSSING heedless of Dry Dark Fine Unknown Nil (Age 61) crossing road from right traffic side traffic side side side side side side side side	1N/519/12.456	15N KELM ROAD	2901768	20/02/2009	Fri	CAR1 SBD on SH 1N lost control straight and hit CAR2 head on	control ENV:	Wet	Overcast	Light Rain	Unknown	N/A	т
I 1N/519/12:901 2936845 08/06/2009 Mon 1500 load or trailer from SUV1 NBD on SUV1 inattentive, misjudged speed, Dry Bright Fine I Type STARR ROAD SUV1 hit Ditch distance or position	1N/519/12.492	20S KELM ROAD	201200108			TRUCKI NBD on SH 1N hit (Age 61) crossing road side	crossing heedless	Dry	Dark	Fine	Unknown	Nil	
	STARR ROAD	I 1N/519/12:901	2936845	08/06/2009		load or trailer from SUVI NBD STARR ROAD SUVI hit Ditch	SUV1 inattentive, misjudged speed, distance or position	DEY	Bright		T Type Junction	Give Way Sign	

D Second street I or landmark	Crash	Date D	Day Time	e / Description of Events	Crash Factors	Road	Natural Light	Weather	Junction	Cntrl	E 00
Distance R		DD/MM/XXXX D	DDD HHMM	М	(ENV = Environmental factors)	_					A E I
100S STARR ROAD	2904554	24/09/2009 T	Thu 2245	S VANI SBD on SH IN lost control; went off road to right, VANI hit Ditch	VANI alcohol test above limit or test refused, lost control under heavy acceleration ENV: road slippery (rain)	Wet	Dark	Light Rain	Unknown	N/A	Н
300S STARR ROAD	201304867	30/08/2013 F	Fri 2150	0 CAR1 NBD on SH IN lost control; went off road to left, CAR1 hit Ditch	CAR1 alcohol test above limit or test refused, too far left/right, emotionally upset/road rage	Dry	Dark	Fine	Unknown	N/A	1 1
400S STARR ROAD	201035003 C	01/05/2010 s	Sat 1130	O CARI SBD on SH IN lost control; went off road to left, CARI hit Cliff Bank, Ditch	CAR1 following too closely, suddenly swerred to avoid vehicle, attention diverted by cigarette etc ENY: heavy zain	Wet	Overcast	Heavy Rain	Unknown	N/A	
250N EDWARD ST	201357352 2	28/11/2013 T	Thu 1500	O CARI NBD on SH 1N hit rear of CAR2 turning right from centre line	CAR1 attention diverted by cigarette etc ENV: heavy rain, entering or leaving private house / farm	Wet	Overcast	Heavy Rain	Driveway	Ná. 1	
190N EDWARD ST	201236445 2	20/07/2012 F	Fri 1550	D VANI NBD on SH in hit rear of SUVZ turning right from centre line	VAN1 failed to notice indication of vehicle in front ENV: entering or leaving private house / farm	Dry	Bright	Fine	Driveway	N/A	
800N MARKET ST	201239080 1	11/10/2012 T	Thu 1757	7 TRUCKI SBD on SH IN changing lanes to left hit CAR2	TRUCKI didnt see/look behind when changing lanes, position or direction	Dry	Bright	Fine	Unknown	Nil	
20N EDWARD ST	201002434 2	26/02/2010 F	Fri 1740	D CARZ turning right hit by oncoming MOTOR CYCLE1 SBD on SH 1N	CAR2 failed to give way when turning to non-furning traffic ENV: entering or leaving specialised liquor outlet	Dxy	Bright	Fine	Driveway	Nil	П
15S EDWARD ST	2944558 2	20/11/2009 F	Fri 0210) CAR1 SBD on SH 1N hit CAR2 reversing along road	CAR2 alcohol test above limit or test refused, intentional collision, evading enforcement	Dry	Dark	Fine	Unknown	Ni 1	
I RIVER ROAD	201231530 2	26/04/2012 T	Thu 1535	5 CAR1 SBD on SH 1N hit CAR2 merging from the left	CAR2 failed to give way at stop sign, didrt see/look when visibility obstructed by other vehicles	Dry	Overcast	Fine	T Type Junction	Stop	
I RIVER ROAD	2945158 0	04/07/2009 S	Sat 2315	5 CAR1 SBD on SH 1N hit CAR2 turning right onto SH 1N from the left	CAR2 did not stop at stop sign	Wet	Dark	Light Rain	T Type Junction	Stop	
I RIVER ROAD	201330333 0	09/02/2013 S	Sat 1840	VANI NED on SH 1N turning right hit CAR2 turning right into SH 1N	CAR2 failed to give way at stop sign, didnt see/look when reguired to give way to traffic from another direction	Dry	Bright	Fine	T Type Junction	Stop	
I RIVER ROAD	201104461 2	24/08/2011 W	Wed 1450	CAR1 SBD on SH 1N	CAR2 failed to give way when turning to non-turning traffic, impared ability due to old age	Dry	Overcast	Fine	T Type Junction	Stop	1 2
I RIVER ROAD	201201116 1	12/01/2012 TH	Thu 0427	7 CAR1 NBD on SH 1N missed inters or end of road, CAR1 hit Post Or Pole	CAR1 fatigue (drowsy, tired, fell asleep)	Dry	Dark	Fine	T Type Junction	Sign	Т
100N OLD TAUPIRI ROAD S	201330256	16/01/2013 Wa	Wed 1942	CAR1 SBD on SH 1N lost control but did not leave the road, CAR1 hit Traffic Island	CAR1 fatigue due to long trip	Dry	Bright	Fine	Unknown	N/A	
700N PRINCESS ST	201239099 1	15/10/2012 MG	Mon 0829	CARI NBD on SH 1N hit rear end of TRUCK2 stop/slow for queue	CAR1 following too closely, attention diverted by other traffic CAR3 following too closely	Dry	Bright	Fine	Unknown	Nil	
50N OLD TAUPIRI ROAD S	201325651	15/12/2013 St	Sun 0515	CARI SBD on SH IN lost control; went off road to left, CARI hit Guard Rail	CAR1 too far left/right, fatigue (drowsy, tired, fell asleep)	Dry	Dark	Fine	Unknown	Nil	П
I OLD TAUPIRI ROAD S	201139353	08/12/2011 TP	Thu 0956	TRUCKI NBD on SH IN hit CAR2 merging from the left	CAR2 alcohol test below limit, did not stop at stop sign, didnt see, look when required to give way to traffic from another direction	Ŋπλ	Bright	Fine	I Type Junction	Stop Sign	
I REGENT ST	201339132 0	05/10/2013 Sa	Sat 0125	TRUCKI NBD on SH 1N hit CAR2 U- turning from same direction of	CAR2 didnt see/look behind when	Dry	Dark	Fine	X Type	Stop	

rl Tot Inj FSM	a K	Q.c					1				г	n n							0 5	
sion Cntrl		oe Stop tion Sign	ston Nil	Wn N/A	own N/A	own N/A	wn Nil	wn Nil	wn N/A	Wn N/A	wn N/A	e Stop ion Sign	ion Nil	wn Nil	wn N/A	wn Nil	wn Nil	wn Nil	e Give ion Way Sign	
her Junction		X Type Junction	T Type Junction	Unknown	Unknown	Unknown	Unknown	Unknown	t Unknown	Unknown	Unknown	T Type Junction	T Type Junction	Unknown	Unknown	Unknown	Unknown	Unknown	T Type Junction	
Weather		t Fine	Fine	Fine	t Fine	Fine	Fine	Fine	Light Rain	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	
Natural Light		Overcast	Bright	Bright	Twilight	Dark	Bright	Bright	Dark	Bright	Overcast	Bright	Dark	Dark	Bright	Bright	Bright	Dark	Bright	
Road	-	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Wet	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	
Crash Factors	(ENV = Environmental factors)	WHEELED PEDESTRIAN2 misjudged speed, distance or position, impared ability due to old age	CAR1 illness with no warning (eg heart attack)	CARl illness with no warning (eg heart attack)	VAN1 too far left/right, fatigue (drowsy, tired, fell asleep)	CARl fatigue (drowsy, tired, fell asleep)	PEDESTRIAN2 crossing heedless of traffic	TRUCKI didnt see/look behind when changing lanes, position or direction	CARI alcohol test above limit or test refused, failed to notice roadworks signs ENV: road slippery (rain), road surface under construction or maintenance	CAR1 following too closely, failed to notice car slowing	CAR1 failed to notice car slowing	CYCLIST2 failed to give way entering roadway not from driveway or incresection, didnt see/look when required to give way to traffic from another direction	CAR2 failed to give way when turning to non-turning traffic, didnt see/look when required to give way to traffic from another direction	CAR1 attention diverted, new driver showed inexperience	CAR1 attention diverted by cell phone	CAR1 attention diverted by cigarette etc	OTHER1 following too closely OTHER2 suddenly braked	CAR1 alcohol test above limit or test refused	CAR2 failed to give way at give way sign, didnt see/look when required to give way to traffic from another direction	
Description of Events		SUV1 NBD on SH 1N hit WHEELED PEDESTRIAN2 (Age 67) crossing road from right side	CAR1 SBD on SH 1N lost control; went off road to left, CAR1 hit Guard Rail	CAR1 SBD on SH IN lost control but did not leave the road, CAR1 hit Guard Rail	VANI SBD on SH IN lost control; went off road to left, VANI hit Bridge	CARI SBD on SH IN lost control but did not leave the road, CARI hit Fence	VANI NBD on SH in hit PEDESTRIAN? (Age 11) crossing road from left side	TRUCKI SBD on SH IN changing lanes to left hit CAR2 CAR2 hit Guard Rail	CARI NBD on SH IN hit parked veh, CARI hit Parked Vehicle, Roadworks	CAR1 SBD on SH 1N hit rear end of SUV2 stop/slow for PEDESTRIAN	CAR1 SBD on SH 1N hit rear end of CAR2 stop/slow for queue	CAR1 SBD on SH 1N hit CYCLIST2 (Age 11) crossing at right angle from right	CAR1 SBD on SH 1N	CAR1 NBD on SH 1N hit rear end of CAR2 stop/slow for queue	CAR1 SBD on SH 1N hit rear end of CAR2 stopped/moving slowly	CAR1 NBD on SH 1N hit rear end of TRUCK2 stop/slow for queue	OTHER1 NBD on SH 1N hit rear end of OTHER2 stop/slow for PEDESTRIAN	CAR1 SBD on SH IN hit rear end of CAR2 stop/slow for obstruction	VANI NBD on SH 1N hit CAR2 turning right onto SH 1N from the left	Carried and at no co don tono
	DDD HAMM	Fri 1042	Mon 1250	Fri 1120	Mon 0519	Tue 0512	Thu 0955	Thu 0913	Fri 0030	Wed 0956	Fri 1500	Fri 1702	Sat 2139	Fri 1753	Sat 1140	Mon 1643	Mon 1155	Thu 2118	Fri 1250	
	DD/MM/XXXY D	22/01/2010 E	23/05/2011 N	22/02/2013 E	10/12/2012 N	22/05/2012 T	16/04/2009 T	13/01/2011 T	10/08/2012 F	14/07/2010 W	16/10/2009 F	13/02/2009 F	06/03/2010 s	08/06/2012 F	26/01/2013 S.	14/11/2011 M	08/06/2009 M	08/04/2010 T	13/05/2011 F	0100/00/10
Crash		201001624	201134944	201301801	201241787	201232635	2902862	201130189	201238307	201038013	2905640	2902003	201031804 (201236004 (201330223 2	201141726 1	2939998	201032973 0	201134943 1	2 110100100
D Second street I or landmark	Distance [R]	I REGENT ST	10S REGENT ST	20S REGENT ST	100s REGENT ST	A WAIKATO RIV BR	120N MARKET ST	BON MARKET ST	SON MARKET ST	30N MARKET ST	20N MARKET ST	5N MARKET ST	I MARKET ST	300N PRINCESS ST	15S MARKET ST	25S MARKET ST	30S MARKET ST	50S MARKET ST	I WAINGARO ROAD	TS SIESESMAN NOOC
First Street		1N/519/13.916	1N/519/13.926	1N/519/13.936	1N/533/0.048	1N/533/0.057	1N/533/0.145	1N/533/0.185	1N/533/0.215	1N/533/0.235	1N/533/0.245	1N/533/0.26	1N/533/0.265	1N/533/0.273	1N/533/0.28	1N/533/0.29	1N/533/0,295	1N/533/0.315	lN/533/0,336	1N/533/0 373

1	E H E H							m		11	1	П				2					
Cntrl			N/A	Nil	Nil	N/A	M/A	Nil	Nil	N/A	N/A	N/A	Nil	N/A	N/A	Give Way Sign	Nil	Nil	N/A	N/A	Give Way Sign
r Junction			Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Driveway	Unknown	Unknown	Unknown	Unknown	Unknown	T Type Junction	T Type Junction	Опкпомп	Driveway	Unknown	T Type Junction
Weather			Fine	Fine	Fine	Fine	Light Rain	Fine	Fine	Fine Pine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Light Rain	Fine	Fine
Natural	Light		Overcast	Overcast	Dark	Bright	Overcast	Twilight	Bright	Bright	Dark	Dark	Bright	Dark	Bright	Bright	Bright	Dark	Overcast	Bright	Bright
Road		200	Dry	Dry	Dry	Dry	Wet	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Wet	Dry	Dry
Crash Factors		(ENV = Environmental factors)	CAR2 didnt see/look behind when pulling out from parked position	CAR1 too fast on straight, following too closely	CAR1 following too closely	VANI failed to notice car slowing, attention diverted	CAR1 failed to notice car slowing, attention diverted ENV: road slippery (rain)	TRUCK1 failed to notice car slowing	SUV1 didnt see/look behind when reversing/manoeuvering	MOTOR CYCLEI suddenly swerved to avoid vehicle TRUCKZ failed to give way at driveway, didnt see/look when required to give way to traffic from another direction ENV: entering or leaving shopping complex	CARI inattentive CYCLISTZ cyclist or m/cyclist wearing dark clothing	CAR1 failed to notice car slowing	TRUCKI didnt see/look behind when changing lanes, position or direction, fatigue due to long trip	CAR1 following too closely	CARI too fast on straight CAR2 alcohol test below limit, didnt see/look behind when pulling out from parked position	CAR2 failed to give way when turning to non-turning traffic, didnt see/look when required to give way to traffic from another direction	CAR1 following too closely CAR3 suddenly swerved to avoid vehicle	CAR1 alcohol test above limit or test refused, failed to notice car slowing, attention diverted	CAR2 failed to give way at driveway, didnt see/look when visibility obstructed by other vehicles EWV road slippery (rain), visibility limited by parked vehicle, entering or leaving service station	CAR1 following too closely, attention diverted	CAR1 failed to notice car slowing, attention diverted by scenery or parsons outside webicle
Day Time Description of Events		DDD HHMMM	Tue 0819 SUV1 NBD on SH 1N hit CAR2 parking/unparking	Wed 1912 CAR1 SBD on SH 1N hit rear end of CAR2 stop/slow for queue	Tue 1735 CAR1 NBD on SH 1N hit rear end of CAR2 stop/slow for queue	Sun 1258 VANI NBD on SH 1N hit rear end of CAR2 stop/slow for PEDESTRIAN	Sun 1144 CAR1 SBD on SH iN hit rear end of CAR2 stop/slow for gueue	Fri 2020 TRUCKI SBD on SH IN hit rear end of CAR2 stop/slow for queue	Wed 1440 SUV1 NBD on SH 1N hit Vehicle while manoeuvring	Wed 1001 MCYOR CYCLE1 NBD on SH 1N hit TRUCK2 merging from the right	Sat 0155 CAR1 SBD on SH 1N hit rear end of CYCLIST2 (Age 19) stopped/moving slowly	Sun 2035 CARI NBD on SH 1N hit rear end of CAR2 stop/slow for PEDESTRIAN	Tue 1439 TRUCKI SBD on SH 1N changing lanes to left hit CAR2	Sun 1846 CAR1 NBD on SH 1N hit rear end of CAR2 stop/slow for PEDESTRIAN	Sun 1530 CARI SBD on SH IN hit CAR2 parking/unparking	Pri 1527 CAR2 turning right hit by oncoming SUV1 SBD on SH IN	Mon 0845 CAR1 SBD on SH 1N hit rear end of CAR2 stop/slow for queue	Sun 0014 CAR1 SBD on SH IN hit rear end of CAR2 stop/slow for obstruction	Wed 0725 SUVI SBD on SH IN hit CAR2 turning right onto SH IN from the left	Sun 1540 CARI NBD on SH IN hit rear end of CAR2 stop/slow for PEDESTRIAN	Fri 1736 CAR1 NBD on SH 1N hit rear end of CAR2 stop/slow for queue
Date		DD/MM/YYYY	20/10/2009	07/12/2011	26/05/2009	23/10/2011	06/06/2010	22/01/2010	20/05/2009	09/02/2011	23/01/2010	28/03/2010	15/11/2011	18/08/2013	24/10/2010	02/01/2009	22/02/2010	23/08/2009	18/11/2009	03/10/2010	01/03/2013
Crash	Number		2943353	201142206	2935914	201138044	201036078	201001517	2936086	201101430	201004187	201002303	201141793	201336711	201042968	2901281	201032979	2941434	2943354	201040798	201331451
IDI Second street	(I) or landmark	Distance {K	30S NEWCASTLE ST	350S MARKET ST	50S PRINCESS ST	50S PRINCESS ST	60s PRINCESS ST	80S NEWCASTLE ST	80S NEWCASTLE ST	80S PRINCESS ST	100S NEWCASTLE ST	100S PRINCESS ST	100S PRINCESS ST	30N MARTIN ST	15N MARTIN ST	I MARTIN ST	10S MARTIN ST	20S MARTIN ST	20S MARTIN ST	20N JORDAN ST	5N JORDAN ST
First Street			1N/533/0.603	1N/533/0,615	1N/533/0.623	1N/533/0.623	1N/533/0.633	1N/533/0,653	1N/533/0.653	1N/533/0.653	1N/533/0.673	1N/533/0.673	1N/533/0.673	1N/533/0.715	1N/533/0.73	1N/533/0.745	1N/533/0,755	1N/533/0,765	1N/533/0.765	1N/533/0.895	1N/533/0.91

D Second street I or landmark	Crash	Date	Day Time	e Description of Events	Crash Factors	Road	Natural Light	Weather	Junction	Cntrl	r vs
Distance [R]	53	DD/MM/YYYY	DDD HHMM	٠	(ENV = Environmental factors)						A E I
I JORDAN ST	201130958	201130958 12/01/2011	Wed 1215	5 CARI NBD on SH IN hit VANZ U- turning from same direction of travel	VANZ didnt see/look behind when changing lanes, position or direction	Dry	Bright	Fine	T Type Junction	Give Way Sign	
I JORDAN ST	2934917	23/04/2009	Thu 1900	CARI NBD on SH 1N hit PEDESTRIAN2 crossing road from right side	PEDBSTRIAN2 Intoxicated non-driver, crossing heedless of traffic	Dry	Dark	ii D	T Type Junction	Give Way Sign	
100S JORDAN ST	201336642	11/07/2013	Thu 0145	5 CARI NBD on SH IN lost control turning right, CARI hit Guard Rail on right hand bend	CAR1 lost control when turning, stolen vehicle	Dry	Dark	Fine	Unknown	N/A	
120N ELLERY ST	201039375	5 26/08/2010	Thu 0345	5 CARI SBD on SH IN lost control turning right, CARI hit House Or Bldg on right hand bend	CAR1 too fast entering corner, lost control when turning, weading enforcement, stolen wehicle ENV: entering or leaving service station	Wet	Dark	Fine	Driveway	N/A	
100N ELLERY ST	201135573	3 24/06/2011	Fri 1434	1 CAR1 NBD on SH 1N hit CAR2 turning right onto SH 1N from the left	CAR2 failed to give way at driveway, didn't see/look when required to give way to traffic from another direction ENV: road slipper (rain), entering or leaving service station	% e t1	Overcast	Light Rain	Driveway	N/A	
100N SH 39	201034233	3 01/04/2010	Thu 0658	3 CAR1 WBD on SH 1N hit Vehicle while manceuvring	CAR1 alcohol suspected, didnt see/look behind when reversing/manoeuvering, evading enforcement	Dry	Overcast	Fine	Unknown	N/A	
I ELLERY ST	201234015	08/06/2012	Fri 1307	7 CARI NBD on SH 1N hit CARZ turning right onto SH 1N from the left	CAR2 failed to give way at give way sign, didnt see/look when visibility obstructed by other vehicles ENV: road slippery (rain)	Wet	Overcast	Light Rain	T Type Junction	Give Way Sign	
98 HS I	201330222	22/01/2013	Tue 1800) TRUCKI NBD on SH IN hit CAR2 merging from the left, CAR2 hit Roadworks	CAR2 failed to give way at give way sign	Dry	Bright	Fine	T Type Junction	Give Way Sign	
I SH 39	201040794	13/10/2010	Wed 0845	5 CARI NBD on SH IN hit CARZ turning right onto SH IN From the left	CAR2 failed to give way at give way sign, didnt see/look when reguired to give way to traffic from another direction	Dry	Overcast	Fine	T Type Junction	Give Way Sign	
I SH 39	201139176	5 02/11/2011	Wed 1751	TRUCKI NBD on SH IN hit CAR2 merging from the left	CAR2 failed to give way at give way sign, didnt see/look when required to give way to traffic from another direction	Dry	Bright	Fine	T Type Junction	Give Way Sign	
I GALILEO ST	201038479	16/08/2010	Mon 2318	3 CAR1 NBD on SH 1N hit CAR2 turning right onto SH 1N from the left, CAR1 hit Guard Rail, Post Or Pole	CAR2 failed to give way at give way sign	Wet	Dark	Heavy Rain	T Type Junction	Give Way Sign	
100S SH 39	2942226	27/06/2009	Sat 2210	CARI NBD on SH IN lost control turning right, CARI hit Post Or Pole on right hand bend	CAR1 alcohol test above limit or test refused ENV: entering or leaving other non-commercial	Dry	Dark	Fine	Driveway	N±1	
100W BELT ST	2942593	23/10/2009	Eri 0410	SUVI WBD on SH IN lost control; went off road to left, SUVI hit Post Or Pole	SUVI alcohol test above limit or test refused, fatique (drowsy, tired, fell asleep)	Wet	Dark	Fine	Unknown	N/A	
20N BELT ST	201230371	31/01/2012	Tue 2218	3 CAR1 NBD on SH 1N hit PEDESTRIAN2 walking with traffic	PEDESTRIAN2 walking along road not facing oncoming traffic	DΣy	Dark	Fine	Unknown	N/A	
SE BELT ST	201042969	05/11/2010	Fri 1820	SUVI WBD on SH IN lost control; went off road to left, SUVI hit Post Or Pole, Traffic Sign	SUV1 alcohol test above limit or test refused, fatique (drowsy, tired, fell asleep)	Dry	Bright	Fine	T Type Junction	Give Way Sign	
400N NORTH ST	201201948	17/03/2012	Sat 2030) CARI NBD on SH IN hit rear of CARI turning right from centre line	CAR1 misjudged intentions of another party ENV: entering or leaving shopping complex	Dry	Twilight	Fine	Driveway	N/A	m
130S BELT ST	201004986	201004986 01/09/2010	Wed 1800	CAR1 NBD on SH IN hit FEDESTRIAN2 (Ame 14) crossing road from right	PEDESTRIAN2 crossing heedless of	Dry	Bright	Fine	Unknown	Nil	7

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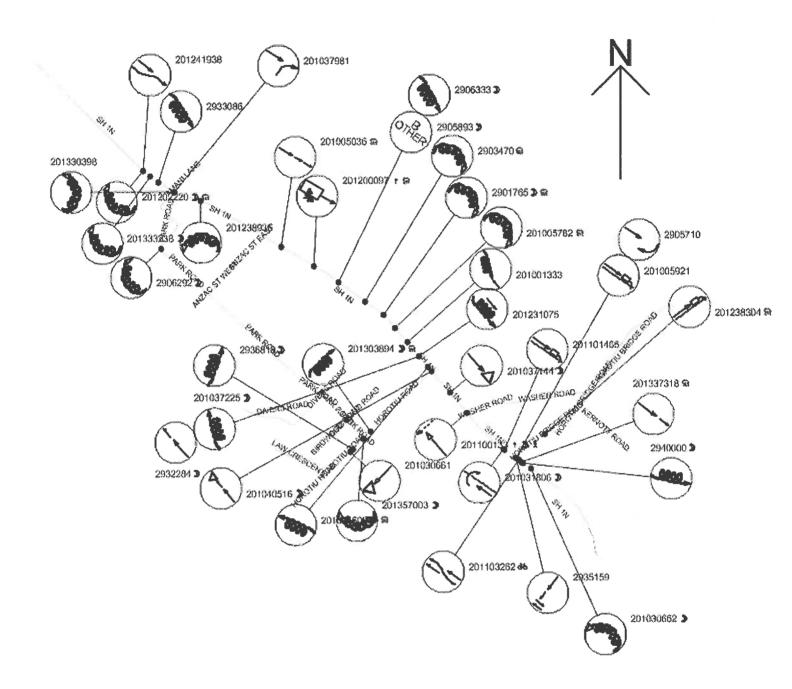
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Horotiu crash listing and collision diagram

First Street	D Second street	Crash	Date	Day Time	me Description of Events	Crash Factors	Road	Natural	Weather	Weather Junction	Cntrl	H (
Dist	Distance [R]	. = 1	DD/MM/YYYY	7 DDD HHMM	MM	(ENV = Environmental factors)		3116477				T A E E H Z E H Z
1N/533/6.088	30N HOROTIU ROAD	201004609	17/08/2010	Tue	0515 CAR1 NBD on SH IN lost control; went off road to left, CAR1 hit Fence	CAR1 lost control due to road conditions ENV: road slippery (rain)	Wet	Dark	Heavy Rain	Unknown	Nil	п
1N/533/6.118	I HOROTIU ROAD	201040516	26/03/2010	Fri	0404 TRUCKI NBD on SH IN hit rear end of VANZ stop/slow for obstruction	TRUCKI failed to notice car slowing, attention diverted by other traffic	Dry	Dark	Fine	T Type Junction	Stop	
1N/533/6.268	150S HOROTIU ROAD	201037144	25/05/2010	Tue	1836 CAR1 SBD on SH IN hit obstruction, CAR1 hit Stray Animal	ENV: household pet rushed out or playing	Dry	Dark	Fine	Unknown	N/A	
1N/533/6.41	20n washer road	201100133	25/12/2011	Sun	2130 VANI NBD on SH 1N hit PEDESTRIAN2 (Age 52) crossing road from right side	VAN1 attention diverted by scenery or persons outside vehicle, did not see or look for other party until too late	Dry	Dark	Fine	Unknown	N 1.1	ı,
HOROTIU ROAD	50N PARK ROAD	201303894	05/08/2013	Mon	0430 CARI NBD on HOROTIU ROAD lost control but did not leave the road, CARI hit Other	CAR1 lost control avoiding another vehicle, suddenly swerred to avoid animal ENV: fog or mist	Wet	Dark	Mist	Unknown	N/A	23
HOROTIU BRIDGE ROAD	200E SH 1N	201238304	21/08/2012	Tue	0813 TRUCKI EBD on HOROTIU BRIDGE ROAD hit rear of CAR2 turning right from centre line	TRUCKI failed to notice car slowing, attention diverted by other traffic ENV: road slippery (rail), entering or leaving other non-commercial	8 0 tt	Overcast	Light Rain	Driveway	N/A	
HOROTIU ROAD	I PARK ROAD	201357003	06/11/2013	Wed 2238		SUV1 alcohol test above limit or test refused, too fast to give way at intersection, failed to give way at give way sign	Dry	Dark	Fine	T Type Junction	Give Way Sign	
1N/533/6.68	80N HOROTIU BRIDGE ROAD	201031806	09/03/2010	Tue	2035 CAR1 NBD on SH 1N hit CAR2 U- turning from same direction of trayel	CAR2 didnt see/look behind when changing lanes, position or direction	Dry	Dark	Fine	Unknown	Nil	
HOROTIU ROAD	80S PARK ROAD	2936818	25/04/2009	Sat	0040 CARI NBD on HOROTIU ROAD lost control; went off road to left, CARI hit Fence	CAR1 alcohol test above limit or test refused	Dry	Dark	Fine	Unknown	N/A	
1N/533/6.69	70N HOROTIU BRIDGE ROAD	201101465	08/03/2011	Tue 0747	47 CARI EBD on SH 1N hit rear of TRUCK2 turning right from centre line	CAR1 failed to notice indication of vehicle in front ENV: entering or leaving other commercial	Dry	Bright	Fine	Driveway	N/A	T
HOROTIU ROAD	100W PARK ROAD	201030661	05/01/2010	Tue	1906 TRUCKI WBD on HOROTIU ROAD hit obstruction, TRUCKI hit Post Or Pole, CAR2 hit Post Or Pole	ENV: obstructed	Dry	Bright	Fine	Опкломп	Nil	
HOROTIU BRIDGE ROAD	I 1N/533/6.76	2935159	05/06/2009	Fri	0750 CAR1 WBD on HOROIIU BRIDGE ROAD hit rear end of CAR2 stop/slow for cross traffic	CARL attention diverted by other traffic, misjudged intentions of another party	Dry	Overcast	Mist	T Type Junction	Give Way Sign	
lN/533/6.76	I HOROTIU BRIDGE ROAD	2905710	28/11/2009	Sat	1110 CAR1 SBD on SH IN hit CAR2 turning right onto SH IN from the left	CAR2 failed to give way at give way sign, didnt see/look when required to give way to traffic from another direction	Dry	Overcast	Fine	T Type Junction	Give Way Sign	2
1N/533/6.76	I HOROTIU BRIDGE ROAD	201005921	29/11/2010	Mon 1131	31 VAN1 SBD on SH 1N hit rear of VAN2 turning right from centre line	VANI failed to notice car slowing, attention diverted ENV: entering or leaving private house / farm	Dry	Bright	Fine	Driveway	Give Way Sign	н
1N/533/6.78	20S HOROTIU BRIDGE ROAD	201103262	27/06/2011	Mon	0950 CYCLISTI (Age 66) NBD on SH IN changing lanes/overtaking to right hit TRUCK2	CYCLIST1 misjudged speed, etc of vehicle coming from behind or alongside	Dry	Bright	Fine	Unknown	N/A	H
1N/533/6.8	40S HOROTIU BRIDGE ROAD	201337318	29/08/2013	Thu 0742	42 CAR1 SBD on SH 1N hit rear end of CAR2 stopped/moving slowly	CAR1 following too closely CAR2 suddenly braked, obstruction on roadway ENV: obstructed	%et	Bright	Fine	Unknown	N/A	
1N/533/6.81	50S HOROTIU BRIDGE ROAD	2940000	15/07/2009	Wed 2001	01 TRUCK1 SBD on SH 1N lost control; went off road to left, TRUCK1 hit Fence, Post Or Pole, Ditch	TRUCK1 too far left/right, attention diverted by cigarette etc	Dry	Dark	Fine	Unknown	Nil	
1N/533/6.86	1008 HOROTIU BRIDGE ROAD	201030662	201030662 25/01/2010	Mon 0417	17 CAR1 NBD on SH IN lost control turning left, CAR1 hit Fence	CAR1 fatigue (drowsy, tired, fell asleep)	Dry	Dark	Fine	Unknown	Nil	

First Street	D Second street I or landmark	Crash Number	Date	Day Time	Description of Events	Crash Factors	Road	Natural Light	Weather	Weather Junction	Cntrl	E S
	Distance [R]	_	IDD/MM/XXXX	ммнн ааа з		(ENV = Environmental factors)	s =c					A E I
1N/533/4.231	200N AMANI LANE	201202220	0 29/04/2012	Sun 1820	CARI NBO on SH IN lost control turning right, CARI hit Post Or Pole on right hand bend	CAR1 too far left/right, lost control when turning, new driver showed inexperience ENV: road slippery (rain)	W e t	Dark	Light Rain	Unknown	N/A	1
1N/533/4.231	200N PARK ROAD	201241938	8 05/11/2012	Mon 0634	I CARI SBD on SH IN changing lanes to left hit VAN2	CAR1 too fast on straight, failed to notice oncoming traffic, cut in after overtaking	Dry	Bright	Fine	Unknown	M/N	
1N/533/4.281	150W AMANI LANE	201333238	8 10/05/2013	3 Fri 0500) CAR1 NBD on SH in lost control turning right, CAR1 hit Fence on right hand bend	CAR1 too fast entering corner, lost control when turning, stolen vehicle ENV: heavy rain	Wet	Dark	Heavy Rain	Unknown	N/A	
1N/533/4.331	100W PARK ROAD	2933086	22/03/2009	9 Sun 0918	CAR1 SBD on SH 1N lost control; went off road to right, CAR1 hit Post Or Pole	CAR1 fatigue due to lack of sleep	Dry	Bright	Fine	Unknown	N/A	
1N/533/4.431	I PARK ROAD	201037981	1 12/07/2010	Mon 1151	CARI SBD on SH IN hit VAN2 merging from the right	VANZ failed to give way at stop sign, didnt see/look when required to give way to traffic from another direction	Dry	Bright	Fine	X Type Junction	Stop Sign	
1N/533/4.431	I PARK ROAD	201330398	8 06/02/2013	3 Wed 0857	CAR1 NBD on PARK ROAD lost control turning left, CAR1 hit Fence	CAR1 alcohol test below limit, lost control under heavy acceleration, showing off wheelspins etc	Dry	Bright	Fine	X Type Junction	Sign	
1N/533/4.581	150E AMANI LANE	201238936	6 12/09/2012	Wed 1220) CAR1 WBD on SH IN lost control turning left, CAR1 hit Fence	CAR1 lost control when turning, attention diverted by cigarette etc	Dry	Bright	Fine	Unknown	N/A	
1N/533/5.073	100S ANZAC ST EAST	201005036	6 22/09/2010	Wed 0750) VANI SBD on SH IN hit rear end of SUV2 stop/slow for queue, VANI hit Fence, Tree	VAN1 following too closely	Wet	Overcast	Light Rain	Unknown	Nil	н
PARK ROAD	400S SH 1N	2906292	27/12/2009	8 sun 0253	3 CAR1 NBD on PARK ROAD lost control turning right on right hand bend	CAR1 alcohol test above limit or test refused	Dry	Dark	Fine	Unknown	Nil	2
IN/533/5.273	300S ANZAC ST EAST	201200097	7 13/10/2012	Sat 1135	passenger fell from moving TRUCK1 SBD on SH 1N	TRUCK1 alcohol test below limit, intentionally leaving moving vehicle	Wet	Overcast	Heavy Rain	Unknown	Nil	7
1N/533/5,431	1000S PARK ROAD	2906333	21/11/2009	3 Sat 0549	CARI SBD on SH IN lost control, went off road to right, CARI hit Ditch	CAR1 lost control, fatique (drowsy, tired, fell asleep)	Dry	Dark	Fine	Unknown	Nil	г
1N/533/5.431	1000S PARK ROAD	2905893	23/11/2009	Mon 0421	. TRUCK1 SBD on SH 1N hit CAR2 head on	TRUCK1 overdimension vehicle or load CAR2 too far left/right	Dry	Dark	Fine	Unknown	Nil	(4
1N/533/5.607	A HOROTIU FREEZING WKS	2903470	07/01/2009	Tue 1130) VANI SBD on SH IN lost control turning right, VANI hit Fence, Ditch on right hand bend	VAN1 lost control when turning ENV: road slippery (rain)	Wet	Overcast	Light Rain	Unknown	N/A	П
1N/533/5.727	120S HOROTIU FREEZING WKS	2901765	01/03/2009	sun 0613	TRUCKI SBD on SH IN lost control turning right, TRUCKI hit Fence on right hand bend	TRUCK1 too far left/right, lost control while returning to seal from unsealed shoulder, driver over- reacted, falique (drowsy, tired, fell asleep)	Wet	Twilight	Light Rain	Unknown	N/A	11
1N/533/5.818	300N HOROTIU ROAD	201005782	2 05/11/2010	Eri 0954	TRUCKI SBD on SH IN lost control turning right, TRUCKI hit Fence on right hand bend	TRUCK1 lost control when turning	Wet	Overcast	Light Rain	Unknown	Nil	П
1N/533/5.918	200N HOROTIU ROAD	201001333	3 16/01/2010) Sat 1040) CAR1 SBD on SH IN lost control on straight and hit CAR2 head on	CAR1 fatigue due to long trip	Dry	Bright	Fine	Unknown	N/A	т т
1N/533/6.018	100N HOROTIU ROAD	2932284	22/02/2009	sun 2130) CAR1 NBD on SH 1N hit rear end of CAR2 stopped/moving slowly	CAR1 emotionally upset/road rage, intentional collision	Dry	Dark	Fine	Unknown	N/A	
1N/533/6.018	100N HOROTIU ROAD	201037225	5 28/06/2010	Mon 0730	CAR1 NBD on SH 1N lost control; went off road to right, CAR1 hit Cliff Bank, Fence	CARl fatigue (drowsy, tired, fell asleep)	Dry	Twilight	Fine	Unknown	N/A	
1N/533/6.018	100N HOROTIU ROAD	201231075	5 24/04/2012	Tue 0754	CARI SED on SH 1N lost control while overtaking, CARI hit Fence	CAR1 too fast for conditions, lost control, driver over-reacted ENV: road slippery (loose material on seal), fog or mist	Dry	Overcast	Mist	Unknown	N/A	

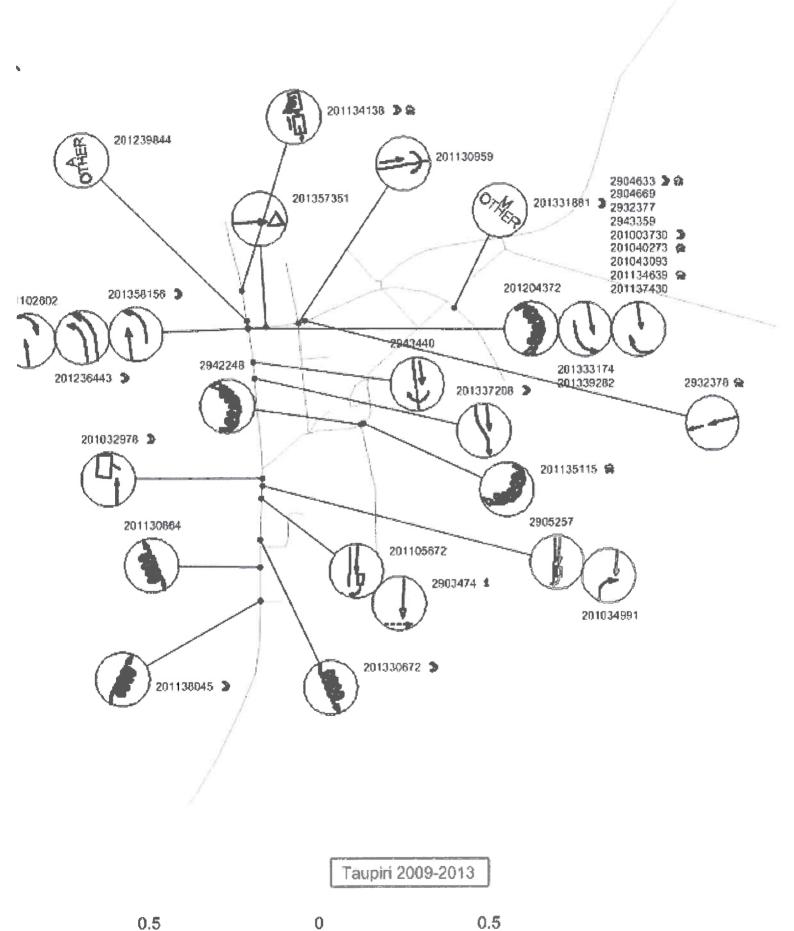


Horotiu Crashes 2009-2013

Taupiri crash listing and collision diagram

H +	F S M																		
1	Cher		Nil	N/N	N/A	Nil	Give Way Sign	Nil	Stop	Sign	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Give Way Sign
1	Junction		Unknown	Unknown	Unknown	T Type Junction	X Type Junction	Unknown	T Type Junction	T Type Junction	T Type Junction	T Type Junction	T Type Junction	T Type Junction	T Type Junction	T Type Junction	T Type Junction	T Type Junction	Roundabo
1	Weather		Fine	Fine	Fine	Light Rain	Fine	Fine	Fine	Fine	Fine	Fine	Fine	E III e	Fine	Light Rain	Fine	Fine	Fine
	Natural Light		Dark	Dark	Bright	Overcast	Bright	Overcast	Bright	Twilight	Bright	Bright	Dark	Overcast	Bright	Overcast	Bright	Overcast	Twilight
ľ	Road	_	Wet	Dry	Dry	Wet	Dry	Dry	Dry	Wet	Dry	Dry	Dry	Wet	Dry	Wet	Dry	Dry	Dry
	Crash Factors	(ENV = Environmental factors)	TRUCK1 inadequate tow coupling	VANI alcohol test above limit or test refused, misjudged speed, distance or position	CAR1 incorrect merging/diverging manceuvre, emotionally upset/road rage	CAR1 following too closely, failed to notice car slowing ENV: road slippery (rain)	SUV2 didnt see/look behind when changing lanes, position or direction	ENV: road obstructed (fallen tree or branch), strong wind	CAR2 failed to give way at stop sign, didnt see/look when visibility obstructed by other vehicles	SUV2 failed to give way at stop sign, attention diverted by other traffic, didnt see/look when required to give way to traffic from another direction	CAR2 failed to give way at stop sign, didnt seellook when required to give way to traffic from another direction BNV: dazzling sun	CAR2 failed to give way at stop sign, didnt see/look when required to give way to traffic from another direction	CAR2 failed to give way at stop sign, didnt see/look when required to give way to traffic from another direction	CARZ failed to give way at stop sign, didnt see/look when visibility obstructed by other vehicles	CAR2 failed to give way at stop sign, didnt see/look when visibility obstructed by other vehicles	CAR2 failed to give way at stop sign ENV: road slippery (rain)	CAR2 failed to give way at stop sign, didnt see/look when required to give way to traffic from another direction	CAR2 failed to give way at stop sign, didnt see/look when visibility obstructed by other vehicles	TRUCKI misjudged speed of own vehicle
	Crash Date Day Time Description of Events Number	DD/WW/XXXX DDD HHMM	201134138 12/05/2011 Thu 0627 load or trailer from TRUCK1 SBD on SH IN TRUCK1 went Over Bank	201331881 08/04/2013 Mon 2147 VANI SBD on SH 1B hit VEHB manoeuvring, VANI hit Ditch	201239844 01/11/2012 Thu 0930 CARI NBD on SH IN GREAT SOUTH overtaking CAR2	2932378 21/02/2009 Sat 1117 CARI WED on SH IB hit rear end of VANZ stopped/moving slowly	201130959 01/02/2011 Tue 0954 SUVI EBD on SH IB hit SUV2 U- turning from same direction of travel	201357351 30/11/2013 Sat 1510 CAR1 EBD on SH 1B hit obstruction, CAR1 hit Other	2932377 23/02/2009 Mon 1648 CARI SBD on SH IN hit CAR2 turning right onto SH IN from the left	2904633 22/07/2009 Wed 0646 TRUCKI SBD on SH IN hit SUV2 turning right onto SH IN from the left	2904669 05/08/2009 Wed 1236 CAR1 SBD on SH IN hit CAR2 turning right onto SH IN from the left	2943359 14/12/2009 Mon 1054 CARL SBD on SH 1N hit CARL turning right onto SH 1N from the left	201003730 09/07/2010 Fri 1855 MOTOR CYCLEL SBD on SH IN GREAT SOUTH hit CARZ turning right onto SH IN GREAT SOUTH from the left	201040273 10/09/2010 Fri 0900 CARI SBD on SH IN hit CAR2 turning right onto SH IN from the left	201043093 23/11/2010 Tue 1201 CAR1 SBD on SH IN GREAT SOUTH hit CAR2 turning right onto SH IN GREAT SOUTH from the left	201134639 22/01/2011 Sat 0905 CAR1 SBD on SH IN GREAT SOUTH hit SOUTH from the left, CAR1 hit Post Or Pole	201102602 30/04/2011 Sat 1130 CAR1 NBD on SH 1N hit CAR2 turning right onto SH 1N from the left	201137436 13/09/2011 Tue 1539 CARI SBD on SH IN hit CAR2 turning right onto SH IN from the left	201236443 28/06/2012 Thu 1710 TRUCK1 and VAN2 both NBD on SH 1N and turning; collided
	D Second street	Distance [R]	110N SH 1B	640s SH 1N	20N SH 1B GORDONTON	20E GREENLANE ROAD	I WRIGHT ST	SOE SH IN	I SH 1B	I SH 1B	SH IB	I SH 1B	I SH 1B GORDONTON	I SH 1B	I SH IB GORDONTON	I SH 1B GORDONTON	I GORDONTON ROAD	I SH 1B	J SH 1B
	First Street	Dist	1N/519/7.221	18/0/0.64	1N/519/7.311 GREAT SOUTH	1B/0/0.167	1B/0/0.147	1B/0/0.05	1N/519/7.331	1N/519/7.331	1N/519/7,331	1N/519/7.331	1N/519/7.331 GREAT SOUTH	lN/519/7.331	1N/519/7,331 GREAT SOUTH	1N/519/7.331 GREAT SOUTH	1N/519/7.331	lN/519/7.331	1N/519/7.331

i co	A F E E	1									↔			Т			
Cntrl		Sign	Give Way Sign	Give Way Sign	Give Way Sign	N/A	Nil	Give Way Sign	Give Way Sign	Nil	Nil	N/A	N/A	N/A	N/A	Nil	Give Way Sign
Weather Junction		T Type Junction	Roundabo	Roundabo	Roundabo	Unknown	Unknown	T Type Junction	T Type Junction	Unknown	Driveway	Driveway	Unknown	Driveway	Unknown	Unknown	T Type Junction
Weathe		Fine	51 1.0 0	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine	Fine
Natural Light		Bright	Bright	Overcast	Dark	Overcast	Dark	Overcast	Overcast	Dark	Bright	Bright	Bright	Overcast	Dark	Bright	Dark
Road		Dry	Dry	Dry	Dry	Dry	Dry	Wet	Dry	Dry	Dry	Dry 1	Dry	Dry	Dry	Dry	Dry
Crash Factors	(ENV = Environmental factors)	TRUCKI too fast entering corner, lost control when turning	VAN2 turned left from incorrect lane, attention diverted by other traffic, attention diverted while trying to find intersection, didnt see/look behind when changing lanes, position or direction	VANZ turned left from incorrect lane, attention diverted by navigation device, didnt see/look behind when changing lanes, position or direction, bilind spot	CAR2 turned left from incorrect lane, misjudged intentions of another party, inexperience	CAR2 didnt see/look behind when changing lanes, position or direction	CARI overtaking deliberately in the face of oncoming traffic, suddenly swerved to avoid vehicle, new driver showed inexperience	CAR1 lost control when turning	CAR1 lost control, attention diverted by cigarette etc	TRUCK1 too far left/right	VANI failed to notice car slowing, attention diverted by cell phone ENV: entering or leaving roadside stall	CAR1 suddenly braked CAR2 failed to give way when turning to nonturning traffic, inattentive ENV: entering or leaving other commercial	PEDESTRIAN2 crossing road, running heedless of traffic	SUV2 didnt see/look behind when changing lanes, position or direction RNV: entering or leaving other commercial	CAR1 fatigue (drowsy, tired, fell asleep)	CAR1 fatigue (drowsy, tired, fell asleep), medical illness (not sudden eg flu)	CARI suddenly swerved to avoid animal, misjudged size or position of fixed object or obstacle
Description of Events		TRUCKI SED on SH IN GREAT SOUTH lost control turning right, TRUCKI hit Post Or Pole on right hand bend	CAR1 SBD on SH 1N sideswiped by VAN2 turning left	CAR1 SBD on SH 1N GREAT SOUTH sideswiped by VAN2 turning left	TRUCKI NBD on SH IN sideswiped by CAR2 turning left	CARI SBD on SH IN GREAT SOUTH hit CAR2 U-turning from same direction of travel	CAR1 SBD on SH IN changing lanes to left hit CAR2	CARI SBD on TE PUTU ST lost control turning right, CARI went Over Bank, Fence, Other on right hand bend	CARI NBD on MURPHY LANE lost control turning left, CARI hit Fence	SUV2 NBD on SH 1N opened door into path of another party, TRUCK1 hit Vehicle	VANI SBD on SH IN hit rear of CAR2 turning right from centre line	CAR2 turning right hit by oncoming CAR1 SBD on SH 1N	CAR1 SBD on SH IN hit PEDESTRIAN2 crossing road from right side	CAR1 SBD on SH 1N hit rear of SUV2 turning right from left side, CAR1 hit Fence	CARI SBD on SH IN lost control; went off road to left, CARI hit Fence, Kerb, Post Or Pole	CARI NBD on SH IN lost control; went off road to left, CARI hit Post Or Pole, Tree	CARI NBD on SH IN lost control; went off road to right, CARI hit Traffic Island, Post Or Pole
Time	нним с	0750	0810	Tue 1000	2115	1538	1715	0800	1625 ر	2130	1347	u 1615	0 1710	1450	0430	t 1148	d 2130
Day	ddd XX	12 Thu	13 Tue		13 Fri	uns 601	113 Wed	111 Tue	109 Mon)10 Wed	009 Fri	010 Thu	uns 600	111 Mon	313 Wed	011 Sat	011 Wed
Date	DD/MM/YYYY	13/09/2012	07/05/2013	29/10/20	20/12/2013	22/11/2009	26/06/2013	31/05/2011	10/08/2009	17/03/2010	07/08/2009	13/05/2010	08/05/2009	21/11/2011	27/02/2013	05/02/2011	19/10/2011
Crash	· ~	201204372	201333174	201339282 29/10/2013	201358156	2943440	201337208	201135115	2942248	201032978	2905257	201034991	2903474	201105672	201330672	201130864	201138045
D Second street	Distance (R)	I SH 1B GORDONTON	I SH 1B	I SH 1B GORDONTON	I SH 1B	100s SH 1B GORDONTON	150S GORDONTON ROAD	10N MURPHY LANE	I MURPHY LANE	30S TE PUTU ST	50S TE PUTU ST	50S TE PUTU ST	90s TE PUTU ST	90S TE PUTU ST	20N FACTORY LANE	60S FACTORY LANE	5N LOVELL AVENUE
First Street	Dist	1N/519/7.331 GREAT SOUTH	1N/519/7.331	1N/519/7.331 GREAT SOUTH	1N/519/7.331	1N/519/7.431 GREAT SOUTH	1N/519/7.481	TE PUTU ST	TE PUTU ST	1N/519/7.775	1N/519/7.795	1N/519/7.795	1N/519/7.835	1N/519/7.836	lN/519/7.956	lN/519/8.035	1N/519/8.134



Te Kowhai crash listing and collision diagram

l .	D Second street I or landmark	Crash Number	Date	Day	Time	Description of Events	Crash Factors	Road	Natural Light	Weather	r Junction	Cntrl	H (2)
	Distance R		DD/MM/YYYY	DDD	ннмм		(ENV = Environmental factors)						H R H
	20N TE KOWHAI ROAD	201302084	03/05/2013	Fri	0315 T	TRUCKI NBD on SH 39 lost control turning left, TRUCKI hit Kerb, Post Or Pole, Tree	TRUCK1 too fast entering corner, lost control when turning ENV: fog or mist	Wet	Dark	Mist	T Type Junction	Give Way Sign	1
	30s TE KOWHAI ROAD	201137537	26/09/2011	Mon	0635 C	CARI SBD on SH 39 lost control turning right, CARI hit Fence, Kerb on right hand bend	CAR1 too fast entering corner, lost control when turning, fatigue (drowsy, tired, fell asleep) ENV: fog or mist	Wet	Twilight	Mist	Unknown	N/A	
	120S WILLOW BROOK LANE	201039376	07/09/2010	Tue	1300 T	TRUCK1 SBD on SH 39 hit rear end of VANZ stop/slow for PEDESTRIAN	TRUCK1 following too closely, failed to notice car slowing	Dry	Bright	Fine	Unknown	N/A	
	400S WILLOW BROOK LANE	201105764	18/11/2011	Fri	0158 V.	VANI SED on SH 39 lost control; went off road to right, VANI hit Phone Box Etc., Rost Or Pole	VAN1 fatigue (drowsy, tired, fell asleep)	Dry	Dark	Fine	Unknown	N/A	1
	230N LIMMER ROAD	201031339	18/01/2010	Mon	1500 C h B	CAR1 NBD on SH 39 cutting corner hit CAR2 head on, CAR1 hit Cliff Bank, Traffic Sign	CAR1 cutting corner on bend CAR2 suddenly swerved to avoid vehicle	Wet	Overcast	Light Rain	Unknown	N i. 1	
	200N LIMMER ROAD	201358041	17/12/2013	Tue	0835 T	TRUCK1 NBD on SH 39 changing lanes to left hit TRUCK2	TRUCK1 cut in after overtaking	Dry	Bright	Fine	Unknown	Nil	
	100N LIMMER ROAD	201033095	22/03/2010	Mon	0856 C	CAR1 NBD on SH 39 lost control on curve and hit CAR2 head on	CAR1 lost control when turning ENV: road slippery (rain)	Wet	Overcast	Light Rain	Unknown	N/A	
	30N LIMMER ROAD	201102316	16/04/2011	Sat	1355 C	CAR1 NBD on SH 39 lost control turning left, CAR1 hit Fence	CAR1 too fast entering corner, lost control when turning ENV: road slippery (rain)	Wet	Overcast	Light Rain	Unknown	N/A	7
	I LIMMER ROAD	201036172	29/06/2010	Tue	1000 V	VAN1 NBD on SH 39 hit rear of VAN2 turning right from centre line, VAN1 hit Guard Rail	VANI inattentive, misjudged speed of own vehicle ENV: slippery, road surface unusually narrow	Wet	Bright	Fine	T Type Junction	Give Way Sign	
	I LIMMER ROAD	201100067	07/07/2011	Thu	1828 C	CARI SBD on SH 39 lost control on curve and hit VAN2 head on	CAR1 alcohol not suspected, tested and -ve (MyT use only), drugs proven, too fast entering corner, lost control when turning	Wet	Dark	Light Rain	T Type Junction	Give Way Sign	2 1
	I LIMMER ROAD	201130701	28/01/2011	Fri	1923 C	CARI NBD on SH 39 lost control turning left, CARI hit Post Or Pole	CAR1 too fast entering corner, lost control when turning	Wet	Twilight	Light Rain	T Type Junction	Gi ve Way Sign	
	5S LIMMER ROAD	201101539	20/03/2011	Sun	1626 S	SUVI NBD on SH 39 weaving in heavy traffic hit CAR2	SUVI alcohol test above limit or test refused, cut in after overtaking	Dry	Bright	Fine	T Type Junction	Give Way Sign	Ľ
	30S LIMMER ROAD	201042864	12/11/2010	Fri	0229 T	TRUCKI SBD on SH 39 lost control turning right, TRUCKI hit Fence on right hand bend	TRUCK1 too fast entering corner, lost control when turning	Dry	Dark	Fine	T Type Junction	Give Way Sign	
	30s Limmer Road	201131051	02/03/2011	Wed	1520 S	SUV1 SBD on SH 39 lost control turning right, SUV1 hit Post Or Pole on right hand bend	SUV1 too fast entering corner, lost control when turning, driver over-reacted ENV: road slippery (rain)	Wet	Overcast	Light Rain	Unknown	N/A	
	40S LIMMER ROAD	201003762	26/07/2010	Mon	1345 C	CAR1 NBD on SH 39 lost control turning left, CAR1 hit Fence, Tree	CAR1 lost control when turning, driver over-reacted ENV: road surface under construction or maintenance	Dry	Bright	říne Tine	Unknown	N/A	1
	40S LIMMER ROAD	2904077	17/05/2009		Sun 1410 C	CARI NBD on SH 39 lost control on curve and hit VAN2 head on	CAR1 too fast entering corner, lost control under heavy braking ENV: heavy rain	Wet	Overcast	Heavy Rain	Unknown	N/A	m
	80S LIMMER ROAD	201003723	30/01/2010	Sat	2110 C	CAR1 SBD on SH 39 lost control on curve and hit CAR2 head on	CAR1 alcohol test below limit, too fast entering corner, lost control when turning ENV: heavy rain	Wet	Dark	Heavy Rain	Unknown	N/A	77
	100s LIMMER ROAD	201042958	15/11/2010	Mon	0620 C	CARI SBD on SH 39 lost control turning right, CARI hit Ditch on right hand bend	CAR1 lost control when turning, attention diverted by navigation device, driver over-reacted	Dry	Overcast	Fine	Unknown	N/A	
	100S LIMMER ROAD	201005957	18/12/2010		Sat 1036 C	CAR1 SBD on SH 39 lost control on	CAR1 lost control when turning	Wet	Overcast	Heavy	Unknown	N/A	П

First Street	D Second street	Crash Date	Date	Day Time	Description of Events	Crash Factors	Road	Road Natural	Weather Junction Cntrl Tot Inj	ction C	trl To
	or landmark	Number		A. T.			-	Light			lti 1
	Distance R		DD/MM/YYYY DDD	MMHH QQQ /		(ENV = Environmental factors)	=2				€ ₽
39/11/011	1005 LIMMER ROAD	201130799	201130799 23/01/2011 Sun 1148		CARI SBD on SH 39 lost control on	CAR1 too fast entering corner, lost Wet C	st Wet	Overcast	Heavy	Unknown N	Nil

